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THE  
**AMERICAN JOURNAL**  
OF THE  
**MEDICAL SCIENCES.**

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No. XXXI.—May, 1835.

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AMERICAN JOURNAL

OF THE  
MEDICAL SCIENCES.

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VOL. XVI.

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PHILADELPHIA:  
CAREY, LEA & BLANCHARD.

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1835.





## TO READERS AND CORRESPONDENTS.

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Communications have been received from Drs. HORNER, PORTER, OSGOOD, W. G. SMITH, GRAGIN, HALLOWELL, METTAUNER, SOUTHWORTH, WEEMS, ROBERTS, and WEBBER.

The following works have been received:—

A System of Dental Surgery. In three parts. 1st. Dental Surgery as a Science. 2d. Operative Dental Surgery. 3d. Pharmacy connected with Dental Surgery. By SAMUEL SHELDON FITCH, M. D. Surgeon Dentist. Second edition. Philadelphia, 1835, Carey, Lea & Blanchard. (From the publishers.)

Illustrations of Surgical Anatomy, with explanatory references; founded on the work of M. Blandin. By JOHN G. M. BURT, Surgeon Extraordinary to the King in Scotland. Second edition. Glasgow. (From the author.)

A Synopsis of the Flora of the Western States. By JOHN L. RIDDELL, A. M. Lecturer on Chemistry; Member of the Historical and Philosophical Society, of Ohio, &c. &c. Cincinnati, 1835. pp. 116. 8vo. (From the author.)

Chemical and Medical Researches on Kreosote, its Preparation, Properties, and Use. By E. MIGUET, M. D. &c. Translated from the French. By WILLIAM WETHERILL, M. D. Philadelphia, 1835. (From the translator.)

Catalogue of the Trustees, Faculty, and Students of the Medical Department of the University of Maryland. Baltimore, 1835. (From Professor Dunglison.)

Dissection of the Eye of the Streaked Bass, *Perca nobilis vel Mitchelli*, with Observations on the Accommodation of the Eye to Distances. By W. C. WALLACE, M. D. Surgeon to the New York Institution for the Blind. (From the author.)

A Catechism of Medical Jurisprudence; being principally a Compendium of the Opinions of the best Writers upon the subject. With a Preliminary Discourse upon the importance of the Study of Forensic Medicine. Designed for Physicians, Attornies, Coroners, and Jurymen. By STEPHEN W. WILLIAMS, M. D. Late Professor of Medical Jurisprudence in the Berkshire Medical Institution, &c. Northampton, 1835. (From the author.)

Introductory Lecture on the Climate and Salubrity of New Orleans; and its Suitability for a Medical School. By EDWARD H. BARTON, M. D. Professor of Materia Medica, Therapeutics, and Hygiene. Published at the request of the Faculty. New Orleans, 1835. (From the author.)

Journal of the Proceedings of a Convention of Physicians of Ohio, held in the City of Columbus, on the 5th of January, 1835. Cincinnati, 1835. (From Dr. William M. Aul, Corresponding Secretary.)

A Catechism of Phrenology, illustrative of the Principles of that Science. By a Member of the Phrenological Society of Edinburgh. From the sixth Glasgow edition. Philadelphia, Carey, Lea & Blanchard, 1835. (From the publishers.)

Introductory Address delivered at the opening of the Medical College of the State of South Carolina, November 10th, 1834. By JAMES MOULTRIE, M. D. Published at the request of the Class. Charleston, 1834. (From Professor Frost.)

Introductory Address on the Establishment of the Medical College of Louisiana. By THOMAS HUNT, M. D. Professor of Anatomy and Dean of the Faculty. New Orleans, 1835. (From the author.)

Report on the New Map of Maryland, and of the Geologist appointed to make a Geological Survey of the State. (From Professor Ducatel.)

An Address delivered before the Young Men's Temperance Society in



Lowell, March 8th, 1835. By ELISHA BARTLETT, M. D. Published by the Society. (From the author.)

Archives Générales de Medecine, February, March, April, May, June, July, August, September, October, November, 1834. (In exchange.)

Revue Médicale Française et étrangère, August, September, October, November, December, 1834. (In exchange.)

Journal Hebdomadaire des Progrès des Sciences et Institutions Médicales, August, September, October, November, December, 1834. (In exchange.)

Journal de Pharmacie et des Sciences Accessoires, September, October, November, December, 1834. (In exchange.)

Annales de la Médecine Physiologique, July, August, September, October, November, 1834. (In exchange.)

Gazette Médicale, August, September, October, November, December, 1834. (In exchange.)

La Lancette Française; Gazette des Hôpitaux, August, September, October, November, December, 1834. (In exchange.)

Mémorial Encyclopédique et Progressif des Connaissances Humaines, August, September, October, November, and December, 1834. (In exchange.)

Edinburgh Medical and Surgical Journal, for January, 1835. (In exchange.)

Medico-Chirurgical Review, January, 1835. (In exchange.)

London Medical Gazette, December, 1834, January, 1835. (In exchange.)

Wissenschaftliche Annalen der Gesamten Heilkunde. Herausgegeben von Dr. J. F. C. HECKER, Professor der Heilkunde an der Friederich-Wilhelms-Universität zu Berlin, March, April, May, June, July, August, September, October, November December, 1833, January, February, March, April, May, 1834. (In exchange.)

Ephemeriden der Naturkundige Wetenschappen, for July, August, September, October, 1834. (In exchange.)

The Transylvania Journal of Medicine and the Associate Sciences, December, 1834. (In exchange.)

North American Archives of Medical and Surgical Science, February, March, April, 1835. (In exchange.)

The Medical Magazine, February, March, April, 1835. (In exchange.)

Western Medical Gazette, January, February, 1835. (In exchange.)

Boston Medical and Surgical Journal, Vol. XII. No. 1 to 11. (In exchange.)

Authors of new medical books, desirous of having them reviewed or noticed in this Journal at the earliest opportunity, are invited to transmit to the *Editor* a copy as soon after publication as convenient, when they will receive prompt attention. Under ordinary circumstances, very considerable delay is caused by the circuitous routes through which they are received.

Papers intended for publication, should be sent, *free of expense*, as early after the appearance of the Journal as possible, in order to be in time for the ensuing number. Such communications should be addressed to "CAREY, LEA & BLANCHARD, Philadelphia, for the Editor of the American Journal of the Medical Sciences."

All letters on the *business* of the Journal to be addressed exclusively to the publishers.



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ART. I. *Reports of Cases Treated in the Surgical Ward of the Pennsylvania Hospital.* By T. S. KIRKBRIDE, M. D. Resident Physician.

CASE I. *Dislocation of the Os Femoris Downwards and Backwards.*—James C——, æt. 35, labourer, admitted about noon on the 23d of January, 1835, under the care of Dr. HEWSON. The patient is very muscular, and has always enjoyed good health. He gives the following account of the accident:—About one hour previous to his admission, he was supporting, by means of a prop, a large piece of the roof of a building; the prop broke through the roof, and it fell, crushing him under it; he thinks that in his fall “his right thigh was at first separated from the other, and that his whole body was then pressed flatly to the earth.” He heard no sound, but immediately after suffered severe pain, and was unable to rise, or move the limb. Upon his admission, he presented the following symptoms:—The dislocated thigh was flexed upon the pelvis, and rested upon the uninjured one; the leg was flexed upon the thigh; the knee was below its fellow; the toes turned inwards; the back of the foot, over the origin of the metatarsal bones of the injured side, rested upon the anterior part of the hollow of the tarsus of the opposite limb; the limb could not be extended, and the attempts to effect it produced excruciating pain; the point over the acetabulum was more depressed than natural; the head of the bone was thrown downwards and backwards, and with the trochanter major could be felt with perfect distinctness moving under the fingers when attempts were made at rotation. The head of the bone appeared to rest upon



the posterior part of the body of the ischium, between its tuberosity and its spine. The distance between the trochanter major and the anterior superior spinous process of the ileum, was one and a half inches more than on the sound side. The muscles about the joint, and those of the thigh, were thrown into spasmodic action by all attempts at motion. The patient was unable to lie upon his back, always choosing the sound side, with the injured knee resting on the bed. His skin was warm and dry; pulse 62, regular and full. He was bled  $\zeta$ xxxij. which produced slight syncope. R. Antim. tart. gr. vj.; Aquæ,  $\zeta$ vj. ft. sol.  $\zeta$ ss. q. h.

24th. The patient suffered severe pain during the night, and had no sleep; he has had no sensibility in the leg of the injured side since a few hours after his admission; and numbness now also exists in the lower two-thirds of the thigh, which is of the same temperature as the uninjured one. He has been perspiring freely since the bleeding; bowels open twice during the night; no vomiting. At 7, A. M. he commenced with gr. j. of the tart. ant. every hour, and at 10 o'clock the quantity was increased to gr. j. every half hour, of which he took four doses without producing emesis. At 11½, A. M. he was placed upon the table, and the pullies applied in the ordinary manner; great difficulty however was experienced in securing the extending band above the knee, owing to the shape of the thigh, and the large body of muscles at the part. Some extension was made however, and at the same time it was attempted to lift the head of the bone from its position, by raising the whole thigh. A second attempt at extension was now made, but the bands slipping, as they did before, they were removed entirely, with the intention of making the attachment at the ankle; at this juncture it was observed that the form of the hip had changed; the toes were turned outwards; the limb could be extended, and rotation performed; in fact, it was discovered that the reduction had been effected. Neither the patient nor attendants were conscious of the moment when the reduction took place; no sound was heard, nor any particular motion observed. The patient suffered scarce any pain during the operation.

March 2d.—For several days there was entire loss of sensibility and motion in the leg; he used a variety of stimulating applications, and has only just recovered the proper sensations in the part. The improvement has been very gradual; he has suffered but little pain about the hip, the motions of which are nearly perfect, and is now walking about with the assistance of crutches.

Observations.—This is a very interesting case, and one of such rare occurrence, that it has been passed over without notice by many



writers, and the descriptions of others present little uniformity. I have discovered on record but two analogous cases. The first, which occurred to Mr. KEATE,\* was consecutive to dislocation upon the obturator foramen, and the head of the bone was thrown entirely behind the tuberosity of the ischium, a locality so different from that of the case noted above, as to present scarce any of its characteristic symptoms. The other case is described by Professor WARREN, of Boston.† This was one of great difficulty and some obscurity, and in which the attempt at reduction was not successful. From the account given of it, it seems to have somewhat resembled that recorded by Mr. Keate's. The great increase in the length of the limb, (three inches,) and the position by the foot, prove the head of the bone to have occupied a situation materially different from that which I have described. BOYER, who has been quoted by many writers, denies the possibility of such a dislocation as that which I have reported, but at the same time gives the symptoms which would occur, if it could take place, and which correspond very nearly with those I have observed. It may also be remarked, that in his description of the dislocation downwards and backwards, he includes not only those properly so called, but also certain dislocations upwards and outwards, and directly backwards upon the edge of the ischiatic notch, and as a consequence states, that the limb will be either shorter, longer, or of the natural length, according to the locality of the head of the bone.‡

M. SANSON§ observes, that BOYER believed a dislocation of this kind was always consecutive, while M. DUPUYTREN thought it might occur primitively. He has also noted a case of luxation of the os femoris, observed in the wards of the last named surgeon, but which differed materially from the one in this house, in being almost directly backwards at the anterior part of the sacro-ischiatic notch. Had the head of the bone passed downwards, as well as backwards, shortening of the limb could hardly have taken place.

In the present instance the symptoms were so characteristic, that it may not be amiss to recapitulate them. The position of the thigh across the sound one, the flexion of the leg upon the thigh, the lengthening of the limb, which could not have been less than one inch, proved by the position of the knee below its fellow, and by that

\* Case reported in London Medical Gazette, Vol. X. p. 19. See Periscope of this No., Sect. Surgery.

† Letter to the Hon. Isaac Parker, &c. by J. C. Warren, M. D. Cambridge, 1826.

‡ Sur les Maladies Chirurgicales. Tom. IV. p. 288.

§ Dictionnaire de Médecine et de Chirurgie Pratiques. Tom. XII. p. 263.



of the foot of the injured side under the sound one, the increased distance between the trochanter major and anterior superior spinous process of the ileum, (one and a half inches,) the difficulty of making rotation, the impossibility of producing extension, and the facility with which both the head and trochanter could be felt, particularly the last of these facts, are points sufficient to indicate with precision the locality of the head of the bone, as being upon the posterior part of the body of the ischium, between its tuberosity and spine, and distinguishing it from all other dislocations of the joint. The paralysis too, (which was probably owing to the unnatural situation into which the sciatic nerve was thrown,) was more complete than is usual, and of longer continuance.

Although much extension could not be made, owing to the peculiar shape of the limb, it may be doubted whether it was really necessary; the head of the bone was probably brought very near to the acetabulum by the attempt to raise it, and entered the cavity upon relaxing the extension after the second application of the pullies. The attention of the assistants being particularly directed to the bands, &c. prevented their noticing the disappearance of the deformity, at the moment it occurred. The words of the patient describing what he believed to be the position of the thigh at the time of the accident, have been given, although great confidence cannot always be placed in the narration of a person, under such circumstances.

CASE II. *Dislocation of the os femoris Upwards and Backwards*.—R. E. æt. 37, labourer, very muscular and of temperate habits, was admitted into the hospital on the 16th of December, 1834, at 8, P. M. with dislocation of the os femoris. The accident happened early in the afternoon, some miles from the city, and was produced by the falling of a heavy bank of earth, under which he was working. When first uncovered, he was found almost exhausted, but perfectly sensible. Upon admission, his skin was of the natural temperature; pulse 80; some strength: the injured limb was shortened one inch; the head of the bone was thrown backwards two inches, and a little upwards, so that it rested upon the dorsum of the ileum and immediately above the ischiatic notch, where it was easily felt by the finger; the knee was turned very much inwards, and rotation outwards could not be effected; the leg was flexed on the thigh so as to form a right angle with it, being the most comfortable position in which he could place it; the rectus muscle was relaxed, while the muscles on the outer side of the thigh were strongly contracted. He suffered much pain from the dislocation and contusions received on various parts of his body. He was bled  $\frac{3}{4}$ xx. which induced faintness, and was directed to take antim. tart. gr. ss. in solution, every hour. This dose induced vomiting



and nausea only in the early part of the evening. At 6 o'clock the following morning he was directed to take the same dose every half hour, which he continued, without sickness, till 11, A. M. when the reduction was attempted. The pulse had been reduced by the antimonial from 80 to 50. The pulleys and counter-extending apparatus were applied as recommended by COOPER, and extension made steadily and firmly, while the limb was freely rotated, and in less than ten minutes the head of the bone, which had advanced gradually during the extension, slipped into the cavity with a sound that was audible to nearly all in the operating room. The patient stated that he suffered no pain, except at the moment when the head of the bone passed over the margin of the acetabulum. He was kept quiet for upwards of four weeks, and afterwards gradually regained the use of the limb. Discharged well, on the 21st of January, 1835.

*Observations.*—This case of dislocation was also admitted under the care of Dr. HEWSON. It possesses in itself no points of particular interest; but, in connexion with the preceding one, tends to show that there is no danger in delaying the operation for many hours, at least long enough to produce the specific effects of antimony, if such a course is not really productive of advantage. The facility with which the reduction was eventually accomplished, inclines us to the belief that the treatment instituted must have tended to the result, as both of the patients were unusually robust labourers, and in good health. A material reduction in the number and strength of the pulsations took place in both subjects without emesis, notwithstanding the high doses of tartrate of antimony that were administered.

The very trifling pain which was suffered in either case demonstrates the advantage of pulleys, in the hands of intelligent surgeons, over all other means of extension in dislocation, and ought to lead to their more general adoption. To render their application perfect would only require the addition of the dynamometer, by means of which the precise degree of force employed, and any variations in it, would be at once detected.

CASE III. *Fracture of the Skull, with Effusion into the Substance of the Brain—Death.*—Fontaine, a seaman, aged about twenty-six years, while on the passage from New Orleans to this port, on the 25th of November, 1834, fell from the rigging, a distance of about thirty feet, striking upon the left side of the head.

He arrived here on the 30th of November, and was brought to the hospital at 4, P. M. The persons who had been with him in the vessel stated, that before the accident he had enjoyed good health, and that his habits were temperate; he had not spoken since the fall,



nor taken drink or nutriment of any kind; he had had no discharge from the bowels, but had passed his urine daily.

Upon his admission the following symptoms were observed:—his skin cool and moist; pulse 120, feeble and very quick; respiration 20, no stertor, resembling that of a person in a deep sleep; the gums covered with sordes; the eyes partly open, the conjunctiva of the left a little injected, the pupil slightly contracted, and sensible to the stimulus of light, no strabismus; the mouth a little drawn to the right side; rigidity of the left arm, which appears completely paralyzed; he moves the left leg a little, but much less than the right one, over which, as well as the right arm, he has perfect controul; he does not appear sensible to irritants applied to his surface, but voluntarily raises his right arm to his head, and occasionally groans, but is not able to articulate; his abdomen is flat, the spine being felt with facility through its parietes. Directed a stimulating enema. Calomel, gr. x. at once; Ol. tiglii, gtt. j. q. 4 h. in the morning. Blister the head with the decoction of cantharides.

*December 1st.*—The paralysis is as observed yesterday; that of the left arm being perfect, and the left leg nearly so; he swallowed his medicine, and has taken small portions of barley and chicken water; the enema brought away only a small portion of feculent matter; his pulse is 140, very feeble, with some irregularity; respiration short, hurried, and irregular; skin moist, cold; other symptoms as previously noted. Death at 6, P. M.

*Autopsy, seventeen hours after death.*—*Exterior.* Rigidity of the left arm and both lower extremities; moderate emaciation; lividity of the back.

*Head.*—No wound of the scalp; on the left side of the head, above the ear, is an effusion of blood into the cellular tissue. Upon removing the cranium, which is rather thinner than usual, the dura mater presents three or four points, rough and torn, where it had adhered closely to the bone; the membrane is clotted with blood, and its vessels generally gorged; the longitudinal sinus filled with liquid and coagulated blood. The arachnoid contains the usual quantity of serosity; the pia mater covering the whole brain, every where thick from the effusion of blood into it. On the left side of the head is a small effusion of blood between the dura mater and skull, and also under it, upon the surface of the brain, but none in its substance; under this last effusion is a slight softening of the cortical substance; the medullary is of good consistence, dotted with red points. On the right side is an effusion of blood into the substance of the anterior lobe of the brain, about one inch in width, and extending a distance of two inches around the lobe; a similar but smaller effusion exists in



the middle lobe of the same side. Under each of these collections of effused blood the cortical substance is softened, and a very thin portion of the medullary also, being only that immediately in contact with the softened cortical; beneath this the medullary is of good consistence, but universally more dotted than usual. The whole cortical substance presents a darker hue than is generally noticed. The ventricles contain  $\frac{3}{4}$ iss. of serum;  $\frac{3}{4}$ iv. of liquid blood escaped during the different steps of the dissection. The central parts are firm and white; cerebellum firm.

After removing the brain a fissure was detected, commencing at the posterior inferior corner of the left parietal bone, extending across it to the occipital, and thence to the sphenoid bone; this fissure was filled with blood and widely separated: another fissure branched off from the first, passing along the petrous portion of the temporal bone up to the body of the sphenoid, which it crossed to terminate half an inch beyond it on the opposite side, and near the seat of the effusion in the middle lobe of the right side.

*Thorax*.—No adhesions; at the upper part of the right lung is a single tuberculous mass, of the size of a very large pea; tissue around it perfectly healthy; lungs generally permeable; no other tubercles nor granulations; no emphysema. Bronchi pale. *Heart*, medium size; small fibrinous coagula in both ventricles; tissue firm; valves healthy.

*Abdomen*.—*Liver*, of the usual size, reddish brown colour, two substances distinct; bile abundant, dark, and of the consistence of tar. *Stomach*, not distended; mucous membrane pale and of good consistence. *Small intestine*, containing mucus only; the membrane pale and of good consistence in every part; glands of Peyer well developed; isolated follicles visible. *Large intestine*, containing semi-consistent fæces; mucous membrane of good consistence, pale. *Spleen*, small, two and a half inches by two, good consistence and of the usual colour. *Kidneys*, smooth externally; no granulations. *Bladder*, containing one pint of limpid urine; membrane pale.

CASE IV. *Fracture of the Skull, with slight depression—Death on the 30th day*.—William F. æt. 31, labourer, was brought to the hospital on the 26th of December, 1834, having, early in the morning, fallen a distance of about thirty feet from a bluff, at which he was employed in blasting rocks, on one of the rail roads near the city. His friends stated that previously he had enjoyed good health, that he was insensible for a short time after the accident, and that he had vomited blood, which was probably from the nose, as this part continued bleeding at the time of his admission.



At his entrance he had recovered his sensibility, and answered questions correctly; his skin continued cool and his pulse rather feeble and frequent; he had received contusions upon the body, the left hip, and face, on which are several extensive ecchymoses. Moderate reäction came on during the night, and the patient was then directed to have cold applied to the head and cups to the hip. R. Ant. tart. gr. ij.; Potas. nit.  $\mathfrak{z}$ ij.; Aquæ,  $\mathfrak{z}$ vj.; ft. sol. S.  $\mathfrak{z}$ ss. q. 2 h.

31st. Symptoms have been favorable till to-day; he is now restless, unable to sleep, and at times slightly delirious; his skin is warm; pulse excited; pupils slightly contracted. V. S.  $\mathfrak{z}$ xviij. Mercurial purge and stimulating enema. Continue sol. ant. tart.

*January 2d, 1835.*—Patient does not sleep; restlessness continues; slight subsultus; picking at the bed clothes, and occasionally starting from his bed; his head is hot; pulse 100, moderate strength, quick; pupils nearly natural; tongue dry; gums and teeth covered with sordes. His bowels have been freely purged. Apply cups freely over the head. Continue cold, &c.

3d. More quiet to-day; he slept three hours last night; tongue less dry and foul; skin warmer than natural; pulse frequent; little strength; less delirium and heat of head. Apply blister to back of head and neck.

5th. Less delirium since the application of the blister, and the patient has slept more; his tongue continues dry at the point, and gums covered with sordes.

8th. Patient's skin is of the natural temperature; he has no constant pain in the head, but his intelligence is not good; gums cleaner; pulse 84, soft, rather quick. The tart. ant. was suspended yesterday, and pulv. doveri. gr. iij. q. 2 h. substituted.

15th. On the 13th he again became restless, with increased heat of surface, anxiety to leave his bed, and low muttering delirium. Fifteen leeches, (European,) were applied to the temples, and the blister renewed on the back of the neck.

The strength of the pulse was reduced by the leeches; he has been more tranquil since the blister has been open; muttering delirium continues, and inability to sleep; heat of surface; pulse 120 to 130, weak. Pupils natural; bowels purged with mag. sulph. Apply blisters to the legs. Continue pulv. doveri.

17th. Less heat of skin; incessant picking at the bed clothes, or tossing them from him; other symptoms as last reported. Apply blister over the whole scalp and follow it with a poultice.

24th. The patient was more tranquil for twenty-four hours after the application of the blister to the scalp, and slept a little for two



nights. Since the morning of the 20th, however, he has been at times exceedingly restless, and had low muttering delirium; no sleep; almost constant subsultus; variable rigidity yesterday and to-day; gums and teeth covered with dark mucous; tongue dry, and patient has difficulty in protruding it; pupils have been natural, or slightly contracted; pulse 120 to 150, quick and feeble; skin, except that of face, warm and dry till yesterday morning, since which it has been cool and covered with a clammy perspiration; respiration oppressive, frequent; puffing of the cheeks; strabismus noticed on the two last days; no priapism observed. Death on the 25th, at 3, A. M.

*Autopsy, eight hours after death.*—*Exterior.* Rigidity of the upper extremities only; emaciation; ecchymoses of the face, particularly on the right side; lividity of the back.

*Head.*—Upon removing the scalp an effusion of blood was found immediately over the anterior part of the frontal bone; upon removing the pericranium, which was not detached, a fracture was observed, with very slight depression; this fracture, as discovered at a later stage of the dissection, commenced on the right side, two inches above the orbit, near the external part of the os frontis, and extended obliquely down to the orbit; from this another fracture extended so as to meet the orbit one inch nearer the external canthus. The first, after reaching the orbit, passed in a straight line through the whole body of the sphenoid bone, one-fourth of an inch from its centre. On the left side of the head was another fracture, a little more external, but taking the same general direction, and terminating at the body of the sphenoid. The depression of the frontal bone was about the one-sixteenth of an inch.

*Brain.*—Vessels on the dura mater and longitudinal sinus empty; the lateral sinuses contained coagulated blood; the arachnoid on the surface smooth, very moist; pia mater paler than usual; cortical substance of good consistence and natural colour; medullary pale, firm, very few dots; brain throughout moist. The arachnoid covering the anterior lobes of the brain, corresponding with the fracture, and surrounding the optic nerves, was dry, granulated, and adherent. The central parts were pale and of perfect consistence. *Cerebellum.* On the inferior surface of each lobe was a coagulum of blood, superficial, nearly half an inch in diameter, immediately around which was doubtful softening. The ventricles contained  $\frac{3}{4}$ ij. of serum, and about the same quantity existed at the base of the brain.

*Thorax.*—Slight adhesions at the lateral part of left and upper of right lung; both gorged with blood posteriorly, but permeable to the



air in every part; no abscesses; no emphysema or tubercles. Bronchi pale. Heart, medium size;  $\frac{3}{4}$ ij. of serum in the pericardium; large coagulum in right auricle; no hypertrophy; valves healthy.

*Abdomen.*—*Stomach*, distended, contained half a pint of greenish fluid; membrane generally pale and of good consistence; slight ecchymosis in pyloric portion; mammellation in posterior part of great cul-de-sac. *Small intestine*, empty; mucous membrane pale, good consistence, strips six to eight lines; glands of Peyer visible. *Large intestine*, containing fæces, mucous membrane a little softened throughout and unusually adherent.

*Spleen.*—Six inches by four, rather softer than is usual, smooth externally; interiorly were more than a dozen spots of coagulated blood dispersed throughout the viscus, and surrounded by a false membrane; the largest of these collections was of the size of a nutmeg; immediately around them the substance was softened; there were also five or six collections of yellowish matter, the largest of the size of a small pea, dispersed through the central parts of the organ, and each surrounded by a false membrane. *Liver*, medium size; on the upper surface of the lower lobe were observed two cracks, three inches long, and penetrating nearly one-fourth of an inch in the deepest part; edges rough. On the under surface were three other fissures one-half to two inches in length, and very superficial. Liver not fatty, some blood flowed on incising it.

*Kidneys*, reddish-brown colour, medium size, smooth externally. *Bladder*, empty; mucous membrane pale.

CASE V. *Symptoms of Phrenitis, following a Wound of the Scalp—recovery without Exfoliation of the Exposed Bone.*—C. A. æt. 26, a coloured seamen, was brought to the hospital on the 1st of November, 1834; half an hour before, he had been knocked down by a cart being driven against him, which had produced a wound of the scalp, exposing a portion of the right parietal bone, denuded of periosteum; this injury was supposed to have been produced by the foot of the horse.

When admitted he was insensible, and apparently intoxicated; his skin was cool; pulse feeble; pupil of the eye nearly natural; no vomiting. He was dull on the following day, but gradually recovered his sensibility, and the natural temperature of his skin, with slight excitement of the pulse. He was purged, had stimulating applications to the extremities, low diet, and poultice to the wounded scalp.

No unpleasant symptoms were observed until the evening of the 6th, when he stated that during greater part of the day, he had been troubled with pain in the head, which had increased very much in violence during the last three hours; he has had frequent vomitings,



with a very distressing sensation at the epigastrium; bowels not open; wound of the scalp suppurating. Ordered a stimulating enema, mustard foot-bath, and eight cups to the head. At 10, P. M. he described the pain as extremely acute; the vomiting and unpleasant sensations at the epigastrium continue; pulse 80; has some strength and slight irregularity; tongue moist, whitish posteriorly, surface warm; that of the head particularly so; pupil natural; conjunctiva not injected; twitches noticed in the left arm; patient very restless; answers questions, but appears irritated when disturbed. V. S.  $\zeta$ xxxv. Shave his head, and take  $\zeta$ x. by cups; afterwards apply cold. Mist. efferves.

7th. The patient bore the loss of blood well; his pulse rose during the operation, which was continued till a decided impression was made on it; the pain was so much diminished that he rested tolerably well a part of the night; had occasional startings from his bed and some nausea. The pain this morning is described as being deeply seated in the eye-balls; light increases the pain; the pupil is a little contracted, and the conjunctiva injected; pulse 80, slight irregularity and quickness; tongue covered with a whitish fur; skin warm. Apply ten cups to the head. Mercurial purge. R. Ant. tart. gr. ij.; Aquæ,  $\zeta$ vj.; ft. sol. S.  $\zeta$ ss. q. h. Continue cold applications.

8th. Better; less irritability of manner when questioned; slept some during the night; less head-ache; pulse 84, regular, but quick, rather weak; pupils natural. Continue treatment.

9th. Pain in his head very slight; slept well last night, and is drowsy to-day; pulse 88, soft and regular; skin of natural temperature; tongue cleaning, bowels not open. Purge with magnes. sulph.

12th. No unpleasant symptoms since last report. Scalp is suppurating. Vegetable diet. Suspend all other treatment.

December 24th.—The wound of the scalp has healed without the exfoliation of any portion of the exposed bone.

January 13th, 1835.—The patient has remained in the house till to-day, under treatment for rheumatism, to which he is subject, without any symptoms referable to the injury of the scalp. Discharged.

Observations.—The first of the three preceding cases of injury of the head is incomplete, from the late period at which the patient was received into the hospital, and interesting only from the relation of some of the symptoms, with the appearances after death, as little benefit could have been expected from any plan of treatment.

The second was not a simple case, and there was no reason primarily to expect the fatal termination which resulted; his chief complaints for a few days were of the pains, &c. resulting from the contusions which he had received on various parts of his body. On the



31st, however, other symptoms presented, indicating an affection of the brain; but even at that time, it was a matter of doubt, whether they were not those of mania a potu, which is of constant occurrence among the recent accidents admitted into the house, and which we were led to expect from the previous history of this patient. A depletory course of treatment, however, was adopted, and the fracture at the base of the skull and injury to the substance of the brain revealed by the autopsy, were sufficient to indicate their source, and to decide upon their original character. Symptoms of restlessness, irritability, excited pulse, &c. do however often occur from injuries not connected with the brain, when depletion is not required, as they constantly disappear under the simplest treatment, and in which an opiate often acts as a charm. Serious injury to the head may exist unsuspected, when the external lesions in other parts are sufficient to induce this temporary excitement. The plan of treatment here is very much a matter of opinion, and although depletion would be safest in all cases, yet there can be no doubt but that in many, it may be dispensed with advantageously.

The third case is an example of the danger which often arises from apparent trifling wounds of the scalp; the recovery after the occurrence of symptoms of phrenitis without the exfoliation of the exposed bone is not usual.

CASE VI. *Traumatic Tetanus, cured by the Use of Opiates and the Application of Cups and Blisters to the Spine.*—Z. L. æt. 19, a coloured servant, while wiping an old and rough edged knife, about 2, P. M. June 8th, 1834, cut the end of the index finger of the left hand; the wound was superficial, about three-fourths of an inch in extent, and was dressed with adhesive plaster. She was sleepless, and during the night suffered much pain, which increased the following day, and early on the morning of the 10th, she was labouring under the incipient symptoms of tetanus. At 1, P. M. she was seen by Dr. HARRIS, who directed her to repeat the dose of laudanum, (gtt. lx.) which she had taken before. She did not arrive at the hospital till 4, P. M. at which time she presented the following symptoms:—Her mind excited, approaching delirium; head-ache; countenance exceedingly anxious; pulse weak and frequent, but could not be accurately counted, from the frequency of the spasms, which affected principally the flexor muscles of the upper extremities, the muscles of the abdomen, and several of those of the face; stiffness of the jaws; acute pain in the left side, and at the lower extremity of the sternum; no spasms in the lower extremities. Ordered tr. opii, gtt. lx. statim, repeat every half hour. Sinapisms along the whole extent of the spine.



At 6, P. M. she had taken three doses of sixty drops each, and one of eighty; her spasms had increased in frequency and violence, being almost constant, and affecting the lower extremities equally with the upper; pain excruciating;  $\bar{z}$ xviiij. of blood have been taken from over the spine by cups, and a blister directed to be applied, extending from the occiput to the sacrum.

From this time her sufferings were extreme, and her screams so distressing, that it was found necessary to remove her to a room disconnected with the ward. Her delirium increased, and her spasms were so violent, that several attendants were required to keep her on her bed. Owing to her restlessness, &c. the blister could not be kept over the spine; the linam. canthar. was therefore directed to be briskly rubbed upon the same part whenever an opportunity offered. Tr. opii, gtt. C. administered at 6, P. M. Calomel, gr. vj., Morph. sulph. gr. ij. at 7, and Morph. sulph. gr. ij. at 8, P. M. Ordered an enema containing six hundred drops of laudanum at 9½ o'clock; fifteen minutes afterwards the spasms were decidedly less violent, and soon ceased entirely. 10½, P. M. Evidently narcotized; in a deep sleep; respiration 4; slightly stertorous, although pinching appeared to incommode her, yet if roused at all, she immediately relapsed into the same condition. A stimulating enema was administered;  $\bar{z}$ viiij. blood taken from the head by cups; mustard foot-bath. She afterwards appeared rational, and slept tolerably well during the remainder of the night. Blister reäpplied to the spine.

11th, 6, A. M. No spasms since last report; when roused, converses rationally; "feels stupid;" has head-ache; some rigidity of jaws; tongue white and clammy; pulse 112, soft; bowels not open since the attack; wounded finger not painful, poulticed. R. Magnes. sulph.  $\bar{z}$ j.; Magnesiae,  $\bar{z}$ ij.; Tr. colch. sem.  $\bar{z}$ ij.; Aquæ,  $\bar{z}$ vj. M. S. Give one-half immediately, and the remainder in two hours.

10, P. M. Bowels freely purged; patient was doing well till 4, P. M. when, after being somewhat excited by visits from her friends, she had a return of the spasms, pain in side, and at the scrobiculus cordis, &c. She took tr. opii, gtt. clx. by the mouth, and an enema with gtt. cc. which relieved the symptoms till 8½, P. M. when they again recurred; two doses each of eighty, and an enema of two hundred drops, have been given, but the spasms continue.

12th 10, P. M. She has had a return of the spasms since that noticed in last report, with the usual symptoms, by the severity of which, the doses of laudanum have been regulated. Her bowels were open twice during the night. The amount of opiate taken during the last



twenty-four hours is five hundred and fifty drops by the mouth, and six hundred by enemata.

13th 10, *P. M.* Slept greater part of the last night; has since had some returns of her former symptoms; pulse is about 94, soft, and regular; tongue slightly furred; rationality good. Since last report with two intermissions, she has taken gtt. c. every two hours, and four enemata, each containing three hundred drops.

14th, *night*. Slight return of spasms at 8, *A. M.* which were relieved by an enema of three hundred drops, in addition to which she has taken one hundred every two hours by the mouth. Ordered a purge, with mixture, directed on the 11th; continuing tr. opii, gtt. c. q. 2 h.

15th. The patient has had several free discharges from the bowels; her spasms are less violent and less frequent; pulse weaker, and intelligence more dull; pain at lower extremity of sternum, of which she has never been perfectly relieved since her admission. In addition to the quantity last directed, she has had morph. sulph. gr. iv. applied to the blistered surface over the spine.

17th. Morphiae sulph. gr. iv. to blister, and one enema, with three hundred drops of landanum, with gtt. c. every two hours, continued yesterday. To-day same dose and morph. sulph. gr. iv. bis die to blister. Twice since daylight she has had violent pain shooting from the spine to the epigastrium, with a strong tendency to spasmodic action; her pulse is 100, soft; tongue moist, still coated; appetite better, and she has improved diet. Repeat the purging mixture, and continue tr. opii, gtt. c. q. 2 h.

18th. Much better; no tendency to spasm; intelligence good; countenance animated; good appetite; pulse 90; no pain in spine or epigastrium; bowels freely purged by the mixture. Let her take tr. opii, gtt. c. q. 4 h.

21st. The opiate has been gradually diminished, so that to-day she will have taken but five doses of forty drops each; until to-day her bowels have been open without medicine. She has complained of no pain, except for a short time in the injured finger, which was relieved by the application of gr. j. morph. sulph. to the wound. Repeat the purging mixture.

24th. The patient's tongue continues coated, and she has less appetite; sleeps well, and has no pain. R. Mass. ex. hydr. gr. iij. bis die. R. Pulv. Seidlitz every morning Tr. opii, gtt. xl. at bed time.

27th. Mercurial suspended yesterday; tongue cleaning; appetite



improved; gaining strength; slept without an opiate; wound of finger healed.

*July 1st.*—Discharged. This patient called at the hospital some months after her discharge, and had continued in good health.

**CASE VII.** *Burn involving the Knee Joint, diffuse Inflammation of the Cellular Tissue; Death.*—Michael Callahan, æt. 34, labourer, admitted November 20th, 1834. His habits are intemperate; but excepting attacks of intermittent fever, for a few months after his arrival in this country, he has always enjoyed good health, and has never been subject to cough. The night before his admission he was intoxicated, and, while sleeping near a fire, in a shantee in the suburbs of the city, he supposes that his knee came in contact with the fire, for he was not aware of having received any injury, until upon awakening in the morning he discovered that he was unable to move the limb.

Upon his entrance he suffered no pain; the integuments were hard and discoloured from a point just below the tuberosity of the tibia, extending upwards three inches above the superior margin of the patella, and from the posterior edge of the internal condyle of the femur, to a corresponding point externally. For a few days after his admission he had symptoms of mania a potu, which were relieved by small doses of opium. After the sloughs began to separate he had a weak and frequent pulse; tongue inclined to dryness; fever in the evening; night sweats, and loss of appetite.

*Treatment.*—Poultice to knee; nutritious diet. Pil. opii. g. j. bis die. Acid. sulph. dilut. gtt. xx. ter die. Limb elevated and perfectly at rest.

*December 3d.*—The burnt integuments, in the extent indicated above, have separated, exposing the patella and its ligamentous attachment, (which also appear to be sloughing,) and healthy granulations on the edges of the ulcer. The inflammation of the contiguous parts has subsided; he still has night sweats, but his appetite has improved; his bowels are regular, tongue red and dry at the tip; he suffers very little pain.

*18th.* Unpleasant effects attending the use of opium; a solution of morphia has been substituted, during the last week, with advantage. The whole of the ligamentum patellæ has separated, and a probe may now be passed into the cavity of the joint; a portion of the head of the tibia is necrosed, but no inflammation exists beyond the margin of the ulcer.

*20th.* The appearance of the ulcer continues as last reported, but in the outer side of the thigh are indications of diffuse cellular inflam-



mation; the parts are swollen, red, hard and tender to the touch. The patient's pulse is quick and feeble; appetite variable; muttering delirium during the night; intelligence dull at all times. General treatment continued. Emplast. Saponis applied with Scultetus' bandage to the thigh.

27th. The swelling, &c. extended up to the groin, large collections of matter existed, which could be pressed out at one or two openings over the knee. An opening was made on the thigh, from which copious discharges of purulent matter, and extensive sloughs of cellular substance, have passed. Sloughing has also commenced in the integuments of the thigh, and is gradually extending. He now suffers pain and has low muttering delirium; tongue reddish, inclined to dryness in the centre; pulse 98, feeble, quick; bowels open by the use of laxatives; fever and profuse night sweats. The bandage of Scultetus is applied to the thigh to prevent the accumulation of matter. Pil. quin. sulph. gr. j. q. 4 h. Vin. Madeir. ℥iv. daily. Other treatment continued.

January 3d, 1835.—No further sloughing of the integuments of the thigh; the discharges from the knee and thigh, though diminished in quantity, are still copious; subsidence of the swelling and redness; cicatrization observed along the edges of the ulcer, but the granulations are rather flabby and pale. He has some cough and expectoration, with shortness of breath, but no pain in the chest; pulse 80 to 100, with rather more strength; tongue less dry; night sweats; sloughing over the sacrum from pressure.

8th. From the sloughing of the integuments the vastus externus muscle is exposed for a distance of three inches; a profuse discharge continues from the knee; cough more troublesome, with some pain in the chest. R. Morph. Sulph. gr. ij.; Syr. limonis, ℥j. Aquæ, ℥vj. ft. sol. S. ℥ss. q. 2 h. Other treatment continued.

13th. Since the last report, the patient has been gradually sinking; there has been an increase of his cough; he has had low muttering delirium, but has complained of no pain. He is covered with clammy perspiration, his skin is cool, pulse scarcely perceptible. Death at 3 A. M.

*Autopsy eight hours after death.*—*Exterior.* Great emaciation; rigidity of the extremities; lividity of the back and upper part of left thigh; ulcerated surface three inches in diameter over the sacrum; exposure of the fibres of the vastus externus muscle, from sloughing of the integuments; ulcer covering the whole knee joint. The patella was easily removed by the fingers, being completely necrosed; pus was found in the joint, the ligaments of which had been com-



pletely destroyed; the head of the tibia and the condyles of the femur were of a dark colour to the depth of half an inch; the bone beyond this discoloured portion was still reddish and infiltrated with pus. Except on the rough surface of the bone, the cavity was covered with a false membrane, and the cellular substance above infiltrated with serum; the lower five inches of the femur were without periosteum and rough; along this portion of the bone was a communication between the ulcer on the thigh and the cavity of the knee joint, likewise lined by a false membrane. The integuments were detached from the muscles a distance of six inches upwards from the ulcer above the knee.

*Thorax*.—No adhesions; the lower lobe of the right lung was of a dark red colour externally, tissue hard in points, and the posterior part of it impermeable to the air, and of the same colour, slightly granulated; in the upper lobe were also a few hardened points impermeable to the air. Left lung dark red, congested with blood posteriorly; at the upper part of the lower lobe were a few yellow points, scarcely equal to a pea in size; tissue permeable. *Heart*, of the medium size; fibrous coagula in both auricles and the right ventricle; substance firm; valves healthy.

*Abdomen*.—Stomach distended, contained one pint of a whitish fluid, in which were particles of coagulated milk; the surface covered by a whitish mucous; mucous membrane softened every where, especially in the posterior part and in the great cul-de-sac, where strips cannot be raised; mammellation marked in the pyloric portion in which the consistence was less diminished; strips three lines. *Small intestine*, contained a yellowish mucous only; the membrane pale throughout, and of good consistence; glands of Peyer well developed; isolated follicles visible. *Large intestine*, contained consistent fæces; the mucous membrane pale and of good consistence. *Liver*, large, at least one-half more than the usual size, of a reddish brown colour, more brittle than ordinary; two substances distinct; no abscesses. Gall-bladder filled with yellowish green bile. *Kidneys*, smooth on external surface, reddish brown colour, medium size. *Bladder*, contracted; contained  $\frac{3}{4}$ ij. of urine and mucous; mucous membrane thick and pale. Spleen, seven inches by five, firm, no collections of matter. Aorta, internal surface of a yellowish white colour, smooth. Vena cava pale; the left iliac branch contained a dark coagulum, and the right a fibrinous one.

*Observations*.—This case was one in which the operation of amputation in the early stage would probably have saved the patient.



At first, however, it could not be ascertained that the injury had extended so deeply as to involve the joint. After this discovery the prospect of ankylosis, (a result which occurred in this house, in a somewhat similar case, a year or two before,) was the only circumstance that could have produced hesitation, and the appearance of the diffuse inflammation so soon afterwards rendered it impracticable at any subsequent period. With the intemperate habits and debilitated constitution of this patient, it may well be doubted whether, under any circumstances, he would have survived the tedious process of ankylosis.

CASE VIII. *Gun-shot Wound, requiring Amputation of the Arm; Coëxistence of an old Fracture of the Patella, in which a singular Species of Union had taken place.*—John —, æt. 39, carpenter, very robust, and almost always in the enjoyment of health, was brought to the hospital about 4, P. M. on the 27th of November, 1834, with an extensive lacerated wound of the hand and arm, which he had received half an hour before, from the premature discharge of a cannon, which he was loading.

At the time of the explosion, he was driving down the wadding, and the rammer was about one-fourth of its extent in the gun. All the fingers of the right hand were blown off, excepting the ring-finger, which was still attached by one of the tendons; the metacarpal bones were exposed and fractured, the ball of the thumb deeply lacerated, and the arm in its lower four inches, burned and contused. There was also in the anterior part of this burnt surface a small wound, from which alone was slight hæmorrhage. Upon his admission he suffered excruciating pain; his pulse was 80, regular, and without unusual quickness, and his skin cool and moist. His limb was placed in a fracture-box, and surrounded by bran. Tr. opii, gtt. xl. statim. To be repeated pro re nata.

On a consultation of the surgeons of the house, the operation of amputation was decided upon, and at 7½, P. M. performed by Dr. Hewson. The limb was muscular, swollen, and exceedingly vascular, requiring ligatures to be applied to six vessels; the contused state of the parts rendered it necessary to perform the operation six inches above the wrist, and even at that point it was discovered during the operation, that the effusion of blood into the cellular tissue was so great, as to separate the muscles from each other.

9th. He slept badly the night of the operation, and on the following morning had some fever. He took magnes. sulph. in the evening, which has operated to-day; his skin is hot and dry; pulse excited;



thirst; severe pain in the left side, near the region of the heart. V. S.  $\mathfrak{Z}$ xiv. R. Potas. nit.  $\mathfrak{Z}$ ij.; Ant. tart. gr. iss.; Aquæ,  $\mathfrak{Z}$ vj. ft. sol. S.  $\mathfrak{Z}$ ss. q. 2 h.

10th. The pain in his side was relieved by the bleeding, but not removed, and eight cups were applied in the evening with manifest advantage. He has less fever to-day and no pain, except in the stump; great restlessness towards evening. R. Morph. sulph. gr.  $\frac{1}{3}$ .

11th. Patient is much better; slept well last night, and has but little pain to-day; pulse 76, soft and regular; skin moist, and of the natural temperature; tongue whitish, moist. Outer dressings removed, and a poultice applied to the under ones. Diet increased.

The limb was dressed on the morning of the 12th; a slight retraction of the flaps had taken place, so that in the middle two-thirds of the stump, an ulcerated surface, nearly half an inch wide, existed; with this exception, and that of a small pouch, that formed on the under side, and might have contained a small nutmeg, every part united by adhesive inflammation. The first ligature came away on the 20th of November, and the last on the 10th of December. He was discharged at his own request, on the 14th, the ulcer being about one-eighth of an inch in diameter.

*Observations.*—This case would show, if proof were necessary, the importance of attempting union by adhesive inflammation in all cases of amputation, for in this instance, notwithstanding the contused state of the parts, the effusion of blood into the cellular tissue, and the unusual number and size of the ligatures, it was almost complete.

The dressings of common wheat bran used in the above case before the operation, was originally introduced into the Pennsylvania Hospital, by Dr. J. R. BARTON, several years ago, and has since been constantly employed in the institution. It will be found particularly convenient and valuable in extensive wounds of the extremities, or in cases where there is a profuse suppuration. Its advantages are that it is pleasant to the patient, it absorbs the discharges, and to some extent diminishes their fœtor; animalculæ are less likely to be generated in it, than in most other dressings; it is easily changed, and by it a sufficient degree of pressure may often be made, to retain displaced parts in apposition. In cases too, where hæmorrhage is apprehended, it is of special importance; the limb being placed in a box, open at the upper end, and the sides attached by hinges; it is surrounded by the bran; whenever the oozing commences, the bran being moistened, expands, and thus augments the pressure upon the vessel, and exactly in proportion to the increase of the discharge is that of the pressure upon the part.



The right knee of this patient presented an old fracture of the patella, in which a singular species of union had taken place, demonstrating the extensibility of newly-formed ligament.

The fracture had been transverse, and nearly in the middle of the bone; the two portions at the time of observation, were connected together by a firm and nearly round ligamentous cord, about the ordinary size of the ring-finger, and extending between the internal angles of the fragments; in all the rest of their extent no connexion whatever could be detected. The consequence of this is, that the external angles diverge widely from each other, being three and three-fourths inches apart when the leg is flexed, while the internal are only two and a half, and when the leg is extended, the former are two inches asunder, and the latter one and a half only. The fragments may almost be brought into contact by firm pressure. Notwithstanding this state of the parts, he is able to walk as rapidly as ever, and without perceptible limping. He suffers but little inconvenience from it, although he thinks it rather weaker than the other; and on one or two occasions when carrying heavy weights, it has given way under him, and required rest for a few days afterwards; in ascending stairs he generally puts the left foot foremost, and brings the other up to it, although this is not absolutely necessary. The history he gives of the injury is, that having fractured the patella by a fall, the limb was kept in splints for four weeks, when contrary to the advice of his attendant, he removed them, and began to move the joint. Although he suffered some pain at first, he never afterwards consulted his physician, and in three months from the occurrence of the accident he engaged in his usual occupations.

CASE IX. *Fracture of the External Condyle of the Femur.*—E. S. æt. 56, labourer, admitted December 9th, 1834, with fracture of the external condyle of the os femoris. He is tolerably temperate in his habits, but not robust. In passing a horse on the afternoon of his admission, he received a kick upon the inner side of the right knee, and afterwards another upon the side, which fractured two of his ribs. When he entered the hospital he complained of severe pain through the knee, in which there was much tenderness and swelling; crepitation was perceptible on the outer side of the articular surface of the femur, but there was little displacement, probably owing to the periosteum retaining some of its integrity; the muscles on the outer side of the thigh contracted strongly; the leg was drawn outwards so as to produce considerable angular deformity; the limb could be easily extended and retained in a right line, but instantly returned into its former position when the extension was not kept up. When the limb



was fully extended, slight flexion of the joint did not give severe pain, but at other times it could not be effected.

The fragment being reduced, the limb was placed in a long fracture-box, and cold applications applied to the joint; there was great swelling of the parts, but a minute examination detected crepitation for several days after his admission. The fractured ribs were treated in the usual manner. The limb was kept extended in this manner, and in the long splints of Dessault, till the 6th of January, 1835, when union appeared to have taken place, but the motions at the joint were very limited, and productive of much pain. To remedy this, and at the same time to allow the bone to become consolidated, a fracture-box that could be elevated or depressed at pleasure was substituted, by which means the angle was constantly varied, and so gradually that he suffered little inconvenience from it. On the 6th of February he was allowed to commence walking with crutches, and was able to flex the leg on the thigh to the extent of a right angle with facility.

*Observations.*—The stiffening of the joints after fractures are of so frequent occurrence, and so annoying to both patient and surgeon, that any means likely to lessen its frequency or to restore the action of the part are very important. The moveable fracture-box employed in the above case is often exceedingly useful, and may be applied as soon as the callus has become tolerably firm, previous to which the extended position will almost always be found to be the safest. From the result of two or three cases of severe compound fracture of the leg, in which the splint of Professor SMITH,\* of Baltimore, was used, I am inclined to believe that it will be found exceedingly useful in obviating the inconvenience above noted; as in two of the cases there was no rigidity or pain in the joints, although their confinement had been protracted. This splint is also worthy of commendation, from its very great convenience in compound fractures, particularly of the leg, (in which alone I have as yet employed it,) from the facility with which the parts may be inspected, the soiled dressings removed, and thorough ablutions of the part performed without in the slightest degree incommoding the patient or disturbing the coaptation of the fragments. The position too is generally agreeable to the patient, and motion of the joints may easily be made, whenever deemed adviseable.

CASE X. *Fracture of the Humerus, from simple Muscular Exertion.*—E. M. æt. 21, admitted January 14th, 1835. He is tolerably robust, and has always enjoyed good head, except that about four

\* Baltimore Medical and Surgical Journal, Vol. I.



months previous to his admission, he had an attack of rheumatism, which he attributed to bathing in the latter part of the summer when overheated. This indisposition had confined him to the house for one week, and since that he had been gradually recovering. He had never before had any fracture excepting of the skull, from a blow by a brick bat when about five years old, when several portions of bone were removed; these parts are now firm. On the morning of his admission, he was throwing oyster-shells from the wharf on the ice in the Delaware, and in one of his efforts, which at the time he did not think violent, by simple muscular exertion he produced a fracture of the os humeri, about one-third of its length from the lower extremity. He came to the hospital immediately afterwards, nothing peculiar occurred during the treatment, and the bone became perfectly firm in about the usual period.

CASE XI. *Fracture of the lower Point of the Fibula.*—William L. æt. 29, shoemaker, admitted January 26th, 1835, with a fracture of the extreme lower point of the right malleolus externus. The account given of the accident is that when walking the same evening along the edge of a sand pit, he fell into it a distance of ten feet, striking upon his side and the right leg at the seat of injury, coming in contact with a projecting stone. The separated fragment comprised the lower half inch of the malleolus; upon his admission it projected so much as to render the nature of the accident very evident; a slight contusion also existed at the same point; by inclining the foot inwards, and making firm pressure on the part, it was easily replaced. The limb was kept perfectly at rest, and cold lotions employed till the disappearance of the swelling, after which a pasteboard splint was applied to the limb, and the patient allowed to take some exercise. No disposition to displacement ever existed after the reduction. He was discharged well on the 15th of March.

*Observations.*—Fractures of the fibula similar to that noted above are very rare, and could hardly occur except from the combined action of the middle peroneo-tarsal ligament, attached to its extremity, and the direct violence received by a fall upon some projecting body. The latter alone to have produced it must have inflicted greater injury upon the soft parts than were observed in the present instance. The motions of the joint after recovery were perfect. As there existed in this case no tendency to abduction, nor to the displacement so striking in fractures above the joint, the apparatus of M. Dupuytren was unnecessary.

*March, 1835.*



ART. II. *Reports of Cases Treated in the Medical Wards of the Pennsylvania Hospital.* By W. W. GERHARD, M. D. Resident Physician. (Part 2d, Intermittent Fever—Chronic Dysentery.)

THE three following cases are examples of malignant intermittent, treated at the hospital during the past year. Two of the three cases were fatal.

CASE I. *Malignant Intermittent, (contracted at Savannah)—Death on the Eleventh or Twelfth day—Coma Profound—no appreciable Alteration of the Cerebral Organs—Thinning and Mammillation of the Mucous Membrane of the Stomach—Small Intestine Normal—Softening in the Cæcum—Enlargement of Liver—Spleen Enlarged and Softened.*—Robert —, seaman, æt. 26, on his passage from Savannah to Philadelphia, when a few days out, was taken with severe chill. The chills came on at intervals which the patient could not recollect; after the chill, fever, which did not entirely subside before the next paroxysm. Intense cephalalgia; delirium; constipation; vomiting only after an emetic. Was not bled. (Details in part from patient, and part from a fellow seaman.)

Admitted October 25th, 1834. At entrance, (evening,) comatose; insensibility to surrounding impressions; skin very hot. Cups were applied to the head, over the whole scalp.

26th. Feeble; answers to questions dull; no complaint of local pain; skin moderately cool. Pulse slightly accelerated; anorexia. Neutral mixture; gruel.

27th. In the morning the same dullness continued; slight acceleration of the pulse, which is still feeble; memory indistinct. At 5 P. M. taken with severe chill, lasting less than an hour; after the chill, skin hot; pulse frequent, not strong; coma nearly perfect; no answers to questions; face a little flushed; pupils natural; sensibility in the limbs nearly natural; motion perfect. Sinapisms to the extremities; cold applications to the head.

28th. (Examination more detailed.) Hair black; eyes gray; complexion yellowish; conjunctiva not injected; no emaciation, nor much embonpoint; teeth slightly encrusted; eyelids equally opened; pupils natural, contractile; no strabismus; look fixed; mouth slightly drawn to the left side in speaking; extreme feebleness; both arms flexible, but a little rigidity of the left; subsultus tendinum at both wrists; withdraws the limbs if pinched; slight cephalalgia; sight troubled; hearing obtuse, but no tinnitus; answers seem correct, but confused like those of a man just awakened; voice feeble, but natural; skin



moist, rather cool; pulse 60, feeble; respiration 31, not high, pure and expansive; no cough; percussion of chest sonorous; no flatness of sound or tumour beneath the left short ribs; in the right side flat sound begins at the usual limit, (an inch and a half below the nipple,) but continues more than three inches below the ribs, where a tumour is easily felt; no sudamina or rose-coloured papulæ; tongue dry, reddish, when protruded is retracted very slowly; abdomen soft, not distended; anorexia; great thirst; deglutition easy; no nausea; one dejection. R. Quiniæ sulph. gr. j.; quaque hora.

He had taken but five or six grains of quinine when the chill recurred, nearly at the same hour as on the preceding day; the chill was not peculiarly violent; the coma continued in the cold and hot stage, with lividity of the face, and difficult respiration; rubefacients and blisters were applied to the extremities, and cups to the head without relief. Death, at 11 P. M.

*Autopsy 29th, fifteen hours after death.—Exterior.* No infiltration; moderate embonpoint; lividity of arms and posterior part of the head and neck; no infiltration.

*Head.* Pia mater injected in the small vessels; arachnoid transparent, moist, rather more than the usual quantity of serosity beneath it; about three ounces in the lateral ventricles; substance of the brain moist, perfectly firm; medullary portion pale; cortical of a livid rose-colour; cerebellum and annular protuberance pale, firm.

*Abdomen.*—Stomach contains half a pint of thin, green liquid. Mucous membrane tinged by the contents, except in the great tuberosity in about one-sixth the whole extent, where it is of a dull white, rough, and is thinner than elsewhere. In the pyloric five-sixths the membrane is mammillated and thinned in spots of a rounded or linear form, one to six lines in length. Consistence throughout good; strips of mucous coat easily detached, opaque, a little thicker than usual, especially in the great tuberosity; five lines long in the great cul-de-sac, seven in the large curvature, and fourteen in the small. No arborizations. *Small intestine* contains a greenish, curdled liquid, very abundant throughout. Mucous coat greenish, but pale, scarcely more opaque than usual, but slightly thickened; consistence good; strips six to seven lines in length in the upper half, diminishing a little near the valve. *Glands of Peyer* visible in the lower half, pale, reticulated, very little elevated, not ulcerated. Isolated follicles abundant in the last five or six feet, especially near the valve, not so large as grains of millet; no orifices visible.

*Mesenteric Glands.*—Those corresponding to the lower half of the intestine are bluish, firm, and at most not larger than a hazel-nut;



the others are of similar aspect, but enlarged, some at the root of the mesentery as large as an almond; not softened, nor tuberculous. *Large intestine* contains a thin yellowish liquid. Mucous membrane in cæcum and ascending colon dull white, semi-opaque, rather soft, strips six to eight lines; inferiorly the same colour exists, but the consistence is good, strips twelve or thirteen lines. Follicles scarcely visible. *Liver* nearly double the usual size, extending three inches below the margin of the ribs. Tissue of a dark brownish lead colour, soft, moderate pressure reducing it to a pulp; no distinction between the two substances. Gall-bladder distended by a dark viscid bile.

*Spleen* in its greatest length in contact with the diaphragm; eight inches long, five broad, and nearly three in thickness, of pulpy consistence, and very dark colour. *Kidneys* pale, firm, smooth externally. Bladder contracted. Mucous membrane pale and firm.

*Thorax*.—Right lung cellular, adhering in its whole extent. Left pleura free, containing little serosity. Tissue of both grayish, containing a moderate quantity of blood, and without tubercles or granulations in any part of their extent. In the upper lobe of the left lung in contact with a bronchial tube of large size, and near the root of the lung, is a cavity the size of a small almond, containing a yellowish substance of cheesy consistence, with some calcareous matter; the cavity is lined with a smooth shining membrane, continuous with the mucous membrane of the bronchus opening into the cavity, (probably the cyst of a tuberculous bronchial gland.) Larynx and trachea pale, not ulcerated. Oesophagus pale. *Heart*, containing very little blood; tissue firm and red; thickness of left ventricle five lines, of right two lines. Aorta pale.

CASE II. *Malignant Intermittent*—*Constitution enfeebled by intemperance and successive attacks of Bronchitis and Erysipelas*—*Coma extreme*.—*Death seven days from first chill*—*Stomach softened in great Tuberosity, of a slate colour, and mammillated elsewhere*.—*Small Intestine, including the Glands of Peyer, normal*—*Large Intestine softened*.—*Spleen enlarged*.—Daniel —, æt. 37, waterman, born at Philadelphia, entered May 13th, 1834; habits very intemperate. Since the age of thirteen, when he became a waterman, has been ill but three times; once twelve years since, with syphilis, both primary and secondary, (sores on penis and in the groin, with eruption, followed by thick scabs, upon the body;) he remained in this hospital three months, and was salivated during ten days. The second illness was quotidian intermittent, last autumn. It was preceded by epistaxis, to which he is subject, and was cured by quinine pills, &c. During the last winter constantly feeble, not able to do



a full day's work, was obliged to pass the winter in a small vessel, in the Delaware bay, amongst the ice. Was intoxicated at the beginning of this month, but not, he says, for some days preceding his illness. On the 6th was at work perfectly well; in the evening, chill, lasting nearly an hour; since then, intense fever without perspiration; epistaxis every day since beginning; cephalalgia constant, but no vertigo except on the day of admission, and no tinnitus aurium; insomnia; no pain in breast or back; coryza and hoarseness for the last twenty-four hours, but little expectoration. Vomiting on the 7th; stomach remaining very irritable; no food retained but a little tea and bread. Severe catharsis from the treatment to which he had subjected himself; from the 7th to the 10th he took a dose of calomel and jalap, another of antibilious pills, and a third of salts. Pain and tumefaction of both knees, beginning in the right; pain and swelling of the left ankle.

At his entrance there was some tremor, vertigo, and tinnitus aurium; no emaciation; strength diminished, but still walks about; voice very hoarse; no tumefaction of tonsils or pharynx; expectoration whitish, not abundant; coryza; no pain in the breast or back; skin hot; resonance of the chest very good in its whole extent; respiration feeble, with sonorous and mucous rhonchus; nausea frequent; constipation; anorexia complete. From the 13th to the 20th hoarseness gradually diminished; severe pain in head and back; pulse frequent; sonorous and mucous rhonchus in chest; natural resonance on percussion; tongue slightly furred; nausea constant; vomiting of nearly all articles of food or medicine; constipation.

Effervescing draught; diet; cups to chest. On the 20th swelling, and great heat of the right thigh in its whole extent; no redness of the skin. The pain, but not the swelling, extends to the knee.

Mucilaginous fomentations; blister on the 23d to the most painful spot, half way between the knee and hip.

On the 26th chill about noon, followed by intense fever after the chill, but no sweating; nausea and vomiting returning after the ingestion of liquids or solids. The chill returned every day nearly at the same hour. Sinapism to stomach; iced water.

30th. No chill to-day; skin hot and dry; tongue rather thick, white, but moist; thirst intense; nausea after taking a Seidlitz powder yesterday; abdomen soft, rather tender on pressure; no sudamina or typhoid spots; two or three stools in the twenty-four hours. Six cups to the epigastrium; iced water in spoonfuls. *Evening*. Profuse sweat since the morning; nausea diminished; skin very wet with perspiration, rather cool; great exhaustion; pulse full, 60; anorexia. Sinapisms to legs. R. Tinct. card. ammon.  $\mathfrak{z}$ j.; Tinc. opii,  $\mathfrak{z}$ ss.; aquæ,



31st. An hour after the medicine sweat less profuse; less exhaustion.

31st. Nausea occasionally; less feeble; intelligence less obtuse.

*June 1st.*—Stupor during the night; answers questions with difficulty; decubitus dorsal; head elevated; pain in the heart and stomach; skin of face livid, mottled; eyelids a little opened; pupils contracted, look fixed; face not distorted; can be roused by some effort, but so insensible that he does not brush away the flies crawling over his face; if pinched does not move his arms or legs; deglutition slow, difficult; pulse 120, quick, rather small; skin hot, moist; respiration 36, stertorous; percussion of chest sonorous; expectoration a little thick, yellowish, with faint nauseous smell; tongue dry, rather chapped; abdomen sonorous, no signs of sensibility if pressed; no tumour in the left hypochondrium. At 9, A. M. return of chill, with some rigidity of the limbs; two hours after the chill profuse sweating. Sinapisms to legs and arms; blisters to thighs; enema of ℥i. ol. terebinth, and ℥iv. mucilage. Diet, wine and arrow-root. The sweat continued the whole evening, most profuse, wetting the mattress. Deglutition became impossible, in part from the will of the patient, who takes the liquids into his mouth, and then spirts them out; same decubitus and state of the countenance; pulse 130 to 140, soft and easily compressed. Apply a scruple of the sulphate of quinine to the surfaces denuded by the blisters; cups to the back of the neck, followed by a blister to extend from the occipital ridge over the nape of the neck; eight dry cups to the epigastrium.

2d. No diminution of the stupor during the night. This morning he spoke a little, said he felt better, swallowed a little sago and brandy; stupor not materially diminished; a little puffing at the mouth; countenance in other respects as yesterday; sensibility obtuse; skin still moist, but rather less profuse sweating; respiration stertorous, 66 in the minute; pulse 140, feeble, less developed; abdomen moderately developed. R. Quiniæ sulphat. ℥j. to each blister; sago and brandy. Stupor continued until death, at 11, P. M.

*Autopsy, eleven hours after death.*—*Exterior.* Some lividity posteriorly; no emaciation; no rigidity; body still warm; muscles red, containing much blood.

*Head.*—Some blood external to the dura mater; longitudinal sinus empty; serosity abundant in the great cavity of the arachnoid, as well as beneath that membrane, giving it a milky, semi-opaque appearance near the summit, without thickening of the membrane after pressing out the serosity; injection of the pia mater moderate; glands



of Pacchioni less developed than usual; cortical substance grayish pink colour; medullary finely and abundantly clotted with blood; cut surface very moist; ventricles contain three or four drachms of serosity; central parts firm.

*Base.*—Some abundance of serosity in the arachnoid and beneath it, with slight milky appearance, but no effusion of lymph or pus either into the fissures of Sylvius or elsewhere; cerebellum, pons varolii and medulla oblongata firm and moderately injected.

*Spinal Marrow.*—More blood than usual external to the dura mater, and much serosity in the arachnoid, but no injection either of the membranes or substance; consistence natural.

*Neck.*—Larynx of natural pearly aspect; no thickening or ulceration; same state of the trachea; œsophagus pale, covered by the epithelium.

*Thorax.*—On left side, slight lateral adhesions, perfectly organized; upper lobe of the left lung grayish anteriorly, reddish elsewhere; vesicles of the size of large grains of sand along the anterior border, scarcely visible elsewhere; consistence of the lung natural; serosity rather abundant, but no hepatization, tubercles, or granulations; lower lobe dark red, much gorged with serosity, but perfectly permeable throughout; no dilatation of vesicles; no tubercles; bronchi in both lobes transparent and slightly livid, not dilated. Right lung, upper and middle lobes grayish anteriorly and reddish in their posterior part, containing much serosity, but still permeable; vesicles along the anterior border of both these lobes twice the size of those in the same part of the left lung; no tubercles or hepatization; lower lobe engorged and dark coloured like the same lobe of the left lung; no emphysema; bronchi as in the left lung. Bronchial glands grayish, the largest not exceeding the size of a hazel-nut, not tuberculous. Little serosity in the pericardium. *Heart*, larger than the fist of the subject, distended by large dark coagula, especially in the cavities of the right side; thickness of left ventricle six lines, of the right less than three; valves flexible; aorta pale.

*Abdomen.*—*Stomach* contains half a pint of dark fluid; mucous membrane, in the cardiac third, of an opaque milky appearance, in all the portion occupied by the fluid, but not extending beyond it; line of separation perfectly distinct; in this third the bluish submucous vessels are visible, and the membrane is soft, easily detached, but yields strips on the anterior face four to five lines in length, a little more soft on the posterior face; no bright injection. The mucous membrane in the pyloric two-thirds is of a general slate colour, with considerable redness along the middle of the large curvature formed by fine



arborizations; mammillation strongly marked throughout the whole of this portion, especially on approaching the pylorus; strips difficult to detach on account of the mucus, which adheres closely, but of good length and thickness: two to two and a half inches in the small curvature, and six to eight lines elsewhere, even in the injected portion.

*Small intestine*, containing some yellowish matter, not distended; mucous membrane throughout pale, of good general consistence; strips six to seven lines in the middle portions, four or five in the upper part, and about the same length near the ileo-cæcal valve; glands of Peyer visible only from their smoothness, and in a few by a slightly reticulated appearance, not perceptibly thicker than the surrounding mucous membrane; glands of Brunner not visible.

*Mesenteric glands*, small, firm, grayish. *Large intestine*, not distended, containing some soft fæcal matter; mucous membrane of the different shades, from a light ash colour to that of a very dark slate, most marked in the cæcum and ascending colon; no bright injection; thickness in cæcum and ascending colon at least double that of its normal state; consistence nearly pulpy; in the rest of the colon thickness greater than usual, although less than in the cæcum; strips of the mucous membrane cannot be raised in the cæcum or ascending colon, and with difficulty in the rest of the intestine, one to two lines only.

*Liver*, of good consistence, rather larger than usual, of a light brown or yellowish-brown colour; internally the yellow granular tissue much developed, giving to the cut surface a yellowish appearance, formed by the granulations varying in size from a millet-seed to that of a small pea. *Gall-bladder*, full of dark green bile. *Spleen*, seven inches in length, five in breadth near its upper part, and two and a half inferiorly; thickness more than two inches; tissue firm, formed by a solid substance of a light brown colour, resisting pressure, contained in the meshes of the cellular substance, which is still visible and not unlike some forms of induration of the lungs. *Kidneys*, of the usual size; cortical substance rather pale; membrane easily detached; bladder contracted.

CASE III. *Malignant Intermittent—cured*.—Ann —, æt. 23, married, but has had no children, born in Ireland, but has resided in America for the last eighteen months; enjoyed good health until last summer, with the exception of coughs, with which she has been rarely attacked; the cough sometimes accompanied with expectoration of blood; on one occasion as much as a wineglassful. The hæmoptysis was not simultaneous with the menstrual periods, which have always returned with slight variation.



On the 2d of July, 1834, while living at service, in one of the most populous parts of the city, (Second Street,) she was attacked with a severe chill, beginning at noon and lasting nearly two hours, followed by fever and sweating. The chill returned next day, and the disease then assumed a regular quotidian type for two months. After this period the fever became tertian until the entrance of the patient. During the last three weeks the chills had been more severe, and occurred at midnight of each alternate day; vomiting was frequent during the paroxysm, and the appetite was imperfect in the interval; cephalalgia nearly constant; no cough or œdema of the cellular tissue, except for a few weeks before her entrance; no pain in the left side; occasional slight pain at the right hypochondrium. She had been once bled, had taken numerous doses of purgative medicines, and at irregular times the sulphate of quinine.

Entered November 22d, 1834. No return of the chills for the first three days; complexion good; very slight œdema of the legs; no emaciation; slight pain at the epigastrium; strength not much diminished; appetite moderate; constipation. Vegetable diet: two Seidlitz powders; no important symptom occurred until the night of the 26th to the 27th, when she had a chill of moderate severity; on the two following nights return of the chill nearly at the same hour, followed by fever and sweating during the rest of the twenty-four hours; skin warm; pulse above 100 in the minute; anorexia. Diet. Neutral mixture  $\mathfrak{z}$ ss. every two hours.

On the night of the 29th to the 30th the chill was attended with more severe pains in the back and limbs than on the preceding nights, but she shook less violently; after the fever profuse sweating, which continued at 9, A. M. when the nurse offered her some water, which she refused taking. Half an hour afterwards, at the visit, I found her lying on the side; face livid, but pale; sweat profuse over the whole skin, which is hot; eyelids closed; pupils immoveable, not dilated; no sensibility to impressions; pulse very frequent; deglutition slow; no answers to questions when addressed to her in a very loud voice. Six cups to the temples and back of the neck; sinapisms to the legs and arms. After the cups the head to be shaved, and a blister, eight inches square, to be applied to the occiput and back of the neck. At 1, P. M. no return of sensibility; deglutition practicable, but slow; same frequency of pulse. Blisters to the ankles, six by four inches. Draught consisting of  $\mathfrak{z}$ j. of sulphate of quinine, twenty minims elixir vitriol, and six ounces of syrup and water; tablespoonful every hour. In the evening she spoke, complained of the



pain of the blisters. Continue solution of quinine  $\frac{z}{ss}$ . every hour; wine and water for drink.

*December 1st.*—She had taken rather more than half a drachm of quinine, in eight doses, when she vomited; now nausea and occasional vomiting; intelligence confused; pain in the limbs, or rather sensation of weight. In the afternoon consciousness perfectly restored; still slight dizziness. Effervescing draught, soda water. *R.* Quiniæ sulph. gr. j. q. b. h.

On the 2d she left her bed; nausea felt at times, but no return of the chills. From this date the appetite was good; the quinine was continued in doses of one grain every two hours; after the first eight days a grain every three or four hours. Since the beginning of the disease she had felt a pain at the pit of the stomach and lower extremity of the sternum, at times shooting to the back, and increasing towards evening; this pain continued during the whole month of December; it did not materially affect the appetite, which was nearly as good as in health; embonpoint increased a little during its continuance. There was increased soreness after eating, both in the pit of the stomach and in the sides. Cephalalgia nearly constant, but not intense. Cups were applied twice to the epigastrium, and five times to the back of the neck; after each application the pains were less severe for two or three days. A blister, two inches square, was placed upon the epigastrium near the last of December; this application was followed by greater relief than the cups; the pains ceased almost entirely before her discharge in the beginning of January. No advantage resulted from an application of cups made to the back opposite to the dorsal vertebræ, which were not painful on pressure.

*Observations on the preceding Cases.*—Two of the cases, (I. and III.) occurred in robust young people, who were admitted into the hospital after the beginning of the disease. The third patient was a waterman, who had been long addicted to the intemperate use of ardent spirits, and had scarcely recovered from an attack of bronchitis, complicated with great irritability of the stomach, and erysipelatous inflammation of the thigh. In Case I. the disease was contracted at Savannah; in Case II. in the Delaware Bay; but in Case III. the fever originated at Philadelphia in the most thickly inhabited part of the town, where intermittents are always of rare occurrence. It is true that the last mentioned patient had been affected with the disease for some months previous to her entrance, and had not been subjected to any regular treatment; at its commencement the paroxysm was not sufficiently severe to prevent her from pursuing her usual employment during the intervals. At her entrance the chills



were entirely suspended for some days; they then returned on three successive nights, but did not assume any peculiar character until a week after her entrance. The dulness and stupor began with the chill, but there was no coma until the sweating stage was fully established. After the sweating had ceased, the coma continued, though with some abatement, until thirty-six hours from the beginning of the paroxysm had elapsed. During this period of thirty-six hours, the patient was absolutely unconscious of every thing that passed around her for the greater part of the time, and when she had recovered her senses, recollected nothing that had occurred since the beginning of the paroxysm. The convalescence from the fever was rapid, but her stay at the hospital was protracted on account of the pain in the head and epigastrium, which did not appear to be necessarily connected with the intermittent.

The disease in Case I. seems to have been primitively malignant, at least the scanty information received from the patient and his friends, renders it probable. The stupor was more intense during the paroxysm, but still so considerable in the interval, as to throw much obscurity upon the nature of the affection. As in Case III. the coma was greatest during the sweating period, when it became complete; it was in this stage death took place. The paroxysm occurred on the day of his admission, but previously to it; it was then suspended for forty-eight hours, but on the two last days of his life it reëssumed the quotidian type. After the occurrence of a paroxysm in the hospital, the diagnosis was nearly free from doubt, but the symptoms at the entrance of the patient, induced the gentleman who had charge of the case, to fear the development of a lesion of the cerebral organs.

The symptoms in Case II. differed from those observed in the other instances; the sweating was more profuse; the chill came on at regular hours each day, but the erysipelas of the thigh, with vomiting, made it doubtful whether the chills were not connected with the external inflammation; their recurrence followed by profuse sweats and coma, without evidence of any local inflammation, made the diagnosis more certain. The patient was affected with intermittent fever the preceding summer, a circumstance in itself sufficient to render the return of the disease not improbable.

*Anatomical Lesions.*—Malignant intermittents scarcely occur in the more temperate regions of continental Europe, where pathological anatomy has been especially cultivated, and physicians in the habit of observing the diseases of warm climates have rarely enjoyed many facilities for those minute pathological examinations necessary



in the study of lesions of the digestive tube. The two latest Medical Dictionaries in which the subject of intermittent fevers has been treated, are the *Dictionnaire de Medecine et de Chirurgie Pratiques* and the *Cyclopedia of Practical Medicine*. In the former work, M. BOUILLAUD, after citing with expressions of doubt, the authors who have described the lesions found in malignant intermittents, concludes with the remark, that much still remains to be done in this important subject, and recommends it for the investigation of physicians who practice in the countries where these diseases prevail. Dr. JOSEPH BROWN, in his article published in the *Cyclopedia*, (August, 1832,) states that the alterations found in cases of malignant intermittent, terminating fatally after coma and convulsions, are "inflammation of the arachnoid coat indicated by intense vascular congestion; effusion of serum between the arachnoid and the pia mater; adhesion between these tunics, so that they formed but one thick membrane, into the tissue of which blood is effused, occasionally by granulations of the arachnoid, or by its being covered by a false membrane; inflammation of the brain, shown by the cortical substance, being of a deep brown or reddish colour, of which the examiner becomes at once conscious, if he have an opportunity of making a comparison with the brain of a patient who has died from some other disease; oozing of points of blood in great abundance from the medullary substance on its being incised, or softening of the organ and effusion of serum in the ventricles and base of the skull." With these lesions may be found various alterations of the abdominal organs.

In the two dissections I have given, there was moderate injection of the pia mater; more than the average quantity of serosity in the arachnoid and beneath it, especially in one of the cases. In the ventricles of one brain there were three or four ounces of serosity, and only three or four drachms in those of the other. In both cases the substance of the brain was moist, but perfectly firm, including the central parts. In one, the cortical substance is described as of a livid rose-colour, and in the other of a grayish pink. In one brain the medullary portion was finely dotted with blood; in the other it was pale. The spinal marrow was firm and pale in the case in which it was examined. In short, the alterations, (moderately abundant serosity, livid colour of cerebral substance and injection,) were such as are met with in a multitude of diseases, and are usually found where the patient dies slowly, but all this affords no proof whatever of inflammation or structural disease of the brain. The absence of any definite lesions of the brain in malignant intermittents is analogous to what is observed in typhus fever, of which we have now in the



works of M. CHOMEL, and especially M. LOUIS, a large number of excellent observations. The symptoms indicating great functional derangement of the brain, are often quite as strongly marked in typhus fever as in malignant intermittent, and as far as analogy would lead us, we should have anticipated very few and very slight anatomical lesions in the autopsies of subjects dead of intermittents. The direct proof afforded by these two observations is, that in malignant intermittents, as well as in typhus fever, and the malignant remittents, (see last No. of this Journal,) the traces of disease of the brain are obscure and doubtful, even when the cerebral symptoms had been the most intense. Whether the lesions of the cerebral substance are not sometimes very great in malignant intermittents, is a question which cannot be determined, except by a large number of observations. If we could venture to reason upon analogies, we should expect to find them only in exceptional cases.

The lesions of the abdominal viscera are next to be examined. The small intestine which contains the glands of Peyer and Brunner, was inspected with much care. The alterations of these glands is a striking characteristic in dissections of typhus fever; their lesions are not found in a great degree except in this affection or in phthisis; but some slight reddening of the follicles is occasionally observed in the exanthemata. In the two dissections of typhus fever which I have had an opportunity of making at Philadelphia, the alterations of the glands of Peyer were identical with those I have seen in the Parisian hospitals; but in both the cases of intermittent and remittent fevers the glands were perfectly normal and but little developed. The mucous membrane of the small intestine was in a normal state in the case, without complications; slightly softened, but pale, in Case II. in which there had been previous disease of the alimentary canal. In two cases of remittent fever it was not altered. The mesenteric glands were firm and grayish in one case, a little softened in the other; natural in the remittent cases. The stomach was mammillated and thinned in Case I. particularly towards the pylorus, generally of a dull semi-opaque white. In Case II. the mucous membrane was opaque and milky, and a little softened in the part which was in contact with the contained liquid, (therefore probably an appearance produced after death.) In the rest of its extent the membrane was strongly mammillated,\* softened in a small extent, and injected

\* The mammillation or mammelonnement of the mucous membrane may be what Bailly calls tubercles of the mucous coat, (quoted by Bouillaud, *Dictionnaire de Med. et de Chirurg. Pratiques*.)



along the large curvature. Both cases, therefore, presented some lesion of the mucous membrane of the stomach; but in the second case a disease of the stomach existed previously to the intermittent, and rendered it doubtful what part of the lesion was due to the intercurrent malady. Analogous lesions of the mucous membrane of the stomach were observed in the cases of remittent fever. The large intestine was softened slightly, without injection, in the first case; much softened, thickened, and of various shades of slate colour, in the second case. In both cases of remittent fever the mucous coat of the large intestine was much softened. The spleen was of the consistence of pulp and much enlarged, though it could not be felt during life. This was explained by the autopsy, which showed that the spleen was in contact with the diaphragm in its longest diameter; that is, it was placed almost transversely. In the second case the spleen was nearly as much enlarged as in the first, not hardened, and of a light brown colour; in accordance with the usual law, this condition of the spleen was consequent upon a disease of longer continuance than the first, and very probably had existed from the first attack of intermittent. In both cases of remittent fever the spleen was enlarged; in one it was pulpy or nearly liquid. The liver was much enlarged in one case, (No. I.) of a dark lead colour, and much softened. In the second case it was a little enlarged, but firm, and yellowish brown, apparently from an increased development of the granular structure. In the subjects dead of remittent the liver was pale and flaccid in one case, firm and brown in the other, but in neither was it softened or hypertrophied. The other organs were not materially diseased.

It is evident that the lesions observed in the cases of remittent and intermittent fever were nearly identical, but differed widely from those found in typhus fever. The pathological points which may with accuracy be deduced from so small a number of cases are chiefly negative; they are, 1st. That the anatomical character of remittent and intermittent fever is not the lesion of the glands of the small intestine, or of the mesenteric ganglia. 2d. The cerebral organs, in cases of malignant intermittents and remittents, may offer no greater alterations than are often formed in chronic and acute affections of various organs of the body. Four cases cannot certainly establish the constant or occasional occurrence of a particular lesion; but the frequent, perhaps constant, disease of the spleen is mentioned by all authors; in the four cases it was enlarged and either much softened or firmer than usual. In both cases of intermittent the liver was diseased, but the alterations of this organ, as well as those of



the stomach and large intestine, must be studied in a large number of cases.

*Treatment.*—In the first case the disease was not recognised until some details were obtained relative to the anterior history of the patient. As soon as the case was regarded as one of malignant intermittent, quinine was given, but not in as large doses as the violence of the disease rendered necessary to arrest the paroxysms. When the stupor occurred, sinapisms were applied to the limbs, cups to the head, and turpentine enemata were given without advantage. The second case was not originally one of intermittent fever. When the chills occurred the stomach of the patient was so irritable that vomiting was frequently produced by the ordinary tisanes. The attempt was not therefore made to administer the quinine by the mouth; blisters on the thighs were sprinkled with the medicine, but the chill returned and again presented the same malignant characters. The last observation terminated more happily than the others. During the paroxysm blood was taken from the head; sinapisms and blisters were applied to the extremities, and back of the neck. As soon as the patient could swallow readily, quinine was administered very largely, in doses of five grains every hour. In this quantity the medicine was taken without difficulty, until nearly forty grains had been given, when the patient was nauseated. The paroxysm did not return after the usual interval; but the quinine was continued in smaller doses for two or three weeks. No positive ill effect resulted from the quinine; but the soreness of the epigastrium and irritability may have been caused by it. There was not much gained by persevering in the high doses after a scruple had been taken; but at first it was the safest course to administer the medicine as largely as possible. Of the remedies used during the stupor, sinapisms and blisters seemed to exert a decided effect; the good effects from cupping to the head were more doubtful. Three cases of remittent fever, besides those published, assumed the malignant character: there was intense stupor, great prostration, nearly complete indifference to surrounding objects. These patients were seamen from the same vessel in which one of the patients who died had belonged. Quinine and wine were given when there was not a perfect intermission, with decided advantage, especially in one case in which the stupor and prostration were most decided; the symptoms diminished after a few doses of the quinine, which was continued until the patient entirely recovered.

The preceding cases of intermittent fever are such as offered symptoms of such gravity that term malignant intermittent is appropri-



ately used to distinguish them from the more common forms of the disease. Other cases of the same affection, especially such as occurred amongst seamen who had arrived from the malarious districts of the southern states, were often very violent, with more or less stupor in the cold and febrile stage, and much prostration in the sweating period; but in none of the cases was the stupor carried to such a degree as to render the patient unconscious of the presence of surrounding objects. In all of these, quinine was exhibited, and without a single exception the chills speedily ceased. The usual accidents which follow the exhibition of quinine, such as cephalalgia, and sometimes nausea, were observed in a few cases, but in the vast majority no unpleasant symptom was clearly consequent upon the exhibition of the medicine; nor was it certain that the cephalalgia was often owing to the effect of the quinine, as this symptom is very generally met with in intermittents as well during the paroxysm as the interval. The cephalalgia was relieved by local depletion, by the application of cups to the head and back of the neck; one, or at most two, applications of the cups removed the pain. In other cases the quinine was suspended and one or two doses of laxatives administered.

CASE I. *Chronic Dysentery—Duration more than a Year—Great Emaciation—Cicatrices found throughout the Large Intestine.*—Peter —, æt. 27, seamen, entered November 11th, 1834. He was in perfect possession of his intelligence; answered distinctly all questions; stated that he had been ill thirteen months, with dysentery. The disease began at New Orleans, continued during the passage to China, and back to America by way of Jamaica, where he was put ashore, and left for some weeks at a hospital. He was sent to the United States from Jamaica, and arrived at Philadelphia on the 8th of November, after a passage of between two and three weeks. During the last voyage, stools very liquid and frequent, not without blood.

At his entrance emaciation extreme; skin dry, bronzed, but cool; no œdema; a few small ulcerations on the abdomen, but none on the sacrum; cheeks hollow; eyes nearly closed, rolling upwards; decubitus abandoned; feebleness extreme, but voice distinct; intelligence perfect; hearing and sight but little impaired; complains of no pain; tongue rather pale; deglutition easy; takes essence of beef and other liquids readily; abdomen much retracted; spinal column easily felt, some hardness in the epigastric and right hypochondriac regions. An involuntary discharge from the bowels, of a little thin brownish liquid. Pulse extremely feeble, obliterated by the slightest pressure, about 80. Respiration 16. (Essence of beef; brandy punch. Tinct. opii, gtt. x. every three hours.)



9th. Prostration rather less, but not sensibly diminished; discharges rare, very thin. Pulse fluttering. Death the 10th, at 11, A. M.

*Autopsy 11th, at 11, A. M. twenty-four hours after death.*—Ema- ciation extreme; no œdema; ulcerations of irregular appearance on the abdomen; rigidity great; no lividity.

*Abdomen.*—Stomach not distended, containing a brownish liquid. Mucous membrane in great cul-de-sac of a pale onion peel colour, smooth, transparent, not mammillated, thickness natural, consistence perfect, (strips six to seven lines;) in the remainder of the cardiac two-thirds of the stomach, the mucous membrane retained the same aspect, and nearly the same consistence. In the third nearest the pylorus, its thickness was increased to half a line; transparency diminished; dark slate colour, with patches irregularly rounded, the largest nearly an inch in diameter, formed by fine arborizations in the membrane itself; consistence of this third much diminished; strips not more than three or four lines even in the small curvature.

*Duodenum*, pale slate colour; follicles much less distinct than usual. Membrane strongly adherent, but firm. *Small intestine* contracted, the greater part contained in the pelvis; a little gas in the lower fourth, pale externally, except near the valve, where it is brownish. Mucous membrane in upper three-fourths of a pale pearl colour, transparent, thin, detached easily from the cellular tissue; strips about five or six lines. In the last fourth, mucous membrane rather brown, adherent; strips gradually less in approaching the valve, where none can be raised. Glands of Peyer reticulated, of the usual prominence, pale at first, but in the reddish brown part, of a similar, though less deep colour, neither ulcerated nor thickened, found only in the lower third. Glands of Brunner not visible, except a few near the valve, scarcely distinct. Mesenteric glands firm, pale, the largest twice the size of a grain of maize. *Large intestine* contracted, of a bluish tinge externally, containing a little thin mucus, slightly rigid to the feel, total thickness about a line, almost exclusively formed by the submucous and muscular coat. Mucous membrane throughout the whole extent of an obscure brown colour, with a slight bluish or slate tinge, less deep in spots scattered along the whole length. Cœcum and beginning of ascending colon, of the same brown tinge, rather deeper than in the inferior part, formed by an abundant net-work of vessels existing in the mucous membrane, which is granulated, rough, opaque, rather thicker than usual, and so soft as to be removed by a slight touch of the back of a scalpel, leaving a pale bluish cellular tissue. From the cœcum to the rectum the mucous coat is puckered, and offers a nearly continuous chain of cicatrices, of various size and aspect, the largest is in



the transverse colon, about two and a half inches long, very irregular, traversed by ridges formed between the rounded depressions of the cicatrix. The membrane covering the cicatrix, is of a colour rather paler than that of the rest of the intestine, and cannot be detached from the cellular substance, its surface is smooth, highly polished, and without follicles. The other cicatrices, which are smaller, from half an inch to an inch and a half in diameter, do not differ materially in appearance from that described; the elevated ridges exist only in the larger cicatrices, which seem owing to several smaller ulcers which have gradually become continuous. *Liver*. Larger than usual, extending to two inches below the ribs. Tissue very hard, the yellow substance more distinct than usual, and more abundant, giving the liver a slight orange tinge, visible externally, but still more distinct in the internal part. Neither fatty nor tuberculous. *Gall-bladder* of the usual size, containing a thick very hard viscid bile; internal surface not injected.

*Spleen*.—Four inches long, two and a half wide, bluish, firm; tissue brown, not tuberculous. *Kidneys*. Both offer their cortical portion, pale yellow, very hard; less thick than usual, but not granulated; this lesion is most evident in the right kidney, in which the cortical portion at its thinnest part is less than a line in thickness, and of a pale straw colour; tubular, of the usual brown colour; membrane adhering strongly to both kidneys; in the right it cannot be detached without tearing away a small layer of the cortical portion, notwithstanding its increased hardness. *Bladder* contracted, containing about two ounces of whitish turbid urine; pancreas rosy, firm.

*Thorax*.—Lungs not adherent, except at the summit and opposite the middle lobe of the right; the adhesion at the summit is loose and cellular, but peels at the middle lobe; the adhesion is easily broken, formed by a thin reddish pellicle covering the pleura, which is of a bright red colour; about two ounces of limpid serosity in each pleura.—*Left Lung*. Upper lobe of a pale gray colour, along its summit and anterior border, where the vesicles are very visible, though not larger than grains of sand; posteriorly the vesicles are scarcely visible, colour darker gray; parenchyma gray, a little rose-coloured, soft, permeable to the air, and examined with care, offer no traces of tubercles or granulations; lower lobe grayish anteriorly, rather reddish posteriorly, but not containing much serosity, containing air, not tuberculous. *Right lung*. Upper lobe of the same pale gray colour anteriorly, and dark posteriorly, as the left, equally free from tubercles; middle lobe, firm, and resisting pressure in its anterior half, of reddish colour, slightly tinged with yellow, not evidently granulated, resist-



ing and friable on pressure, yielding a red liquid, but not sinking when thrown into water; the rest of this lobe contains more blood than the upper, but is still firm. Lower lobe, posteriorly of a darker red than the lower lobe of the left, containing more blood; diaphragmatic surface irregular, from the prominence of the vesicles, which are even larger than on the border of the upper lung, and cause the projection of the lobules. The posterior edge of the lung presents numerous indurations of particular lobules, which are of a bluish colour, hard, smooth and shining, as in the pulmonary induration of young children. Bronchi in both lungs contain little mucus, are transparent, and not dilated; but a little more injected in the right than the left lung. Bronchial glands small, not tuberculous, dark gray. Pericardium not adherent, containing little serosity. Heart very small, but firm, of nearly as red a colour as usual; left cavities empty; right containing a thin fibrinous coagulum. Thickness of left ventricle four lines; of right one and a half. Valves flexible. Aorta pale. *Larynx* pale, not ulcerated. Trachea pale; mucous membrane firm; strips several inches long. Pharynx and œsophagus nearly pale, not ulcerated.

*Head.*—Sinus empty; a little blood in those of the base. Ventricles contain half an ounce of serosity. Substance of brain much paler than usual, but perfectly firm in every part.

*Observations.*—This case is given with the detail it merits. Chronic dysentery is a disease rarely fatal in our climates, and is not common in the north of Europe. At Paris, diarrhœa of so long duration is nearly always tuberculous, but some exceptions are occasionally found. Notwithstanding an illness of thirteen months, attended by extreme emaciation, no tubercles were formed, although the patient was of an age at which tuberculous diseases are very common. The disease was chiefly seated in the large intestine, but extended to the lower part of the ileum. The cicatrices in the colon showed that ulcerations had taken place throughout its whole length, and had become completely cicatrized during the progress of the disease. If the patient had recovered from the extreme prostration into which he had sunk in the passage from Jamaica, during which nothing was given to him but the common ship's provisions, the disease might have been cured even at this late period. It might still be doubtful whether the mucous membrane would ever have recovered its healthy functions, especially as in almost one-half of the colon the membrane was replaced by a tissue of new formation.

CASE II. *Chronic Dysentery—Ulcerations of the Colon—Little alteration of the Small Intestine—Glands of Peyer Normal.*—Wil-



liam —, aged twenty, entered August 11th, 1834; born in Ireland; landed in America in June, 1833; passed the first three months in Wilmington, (Del.) but resided afterwards at Philadelphia; has not been well since August, 1833. Last autumn was admitted into the alms-house with dysentery, where he remained from one to two months; was rather better when he left the alms-house, and went to live with a relative about a fortnight. No attention was paid to regimen; the dysentery became worse, and he returned to the alms-house, where he remained until he went to work on board a vessel in the Delaware Bay, four weeks before his entrance. He was again attacked with dysentery two or three days after beginning work, and remained on board the vessel eight or ten days without medical aid or proper food; great pain in the bowels, and frequent discharges, chiefly of blood; frequent vomiting, particularly after taking food. Cephalalgia from the beginning.

*Present state, August 11th, evening.*—Six discharges, liquid, and tinged with blood in the last five hours. Tenderness across the abdomen in the region of the transverse colon; nausea; decubitus on left side; knees drawn up; intelligence good, but somnolence constant; pupils directed upwards; cephalalgia slight; skin cool and moist. Pulse 114, quickened, small. Respiration 30. Tongue coated at the centre, reddish at the tip and edges. Eight cups across the abdomen above the umbilicus. *Ol. ricini*, ℥j.; *Tinct. opii*, gtt. xx. Diet, arrow-root and milk.

*12th and 13th.* Great prostration; somnolence, interrupted easily by speaking loudly to him; no vomiting; six or seven stools in twelve hours, dark, with but little blood. Pulse 88, soft, regular. Respiration 22. Tongue whitish at centre; skin cool.

On the 12th, a pill was directed every four hours, containing calomel, gr. ss.; opii, gr. ss.; ipecac. gr. j. Milk punch; arrow-root; opiate enemata night and morning.

*14th.* Twelve discharges in as many hours, less foetid, and contain less blood. Some somnolency, but intelligence perfect when roused from it; no pain; skin cool and moist; abdomen retracted, not sonorous on percussion; no typhoid spots or sudamina. Same treatment; but milk punch to be given more freely.

*15th.* Six discharges last night, without blood. No pain; vomits after taking arrow-root, retains the brandy and milk. Constant tendency to stupor; no cephalalgia; conjunctivæ a little injected; skin cool and moist, but the patient fancies his hands are warm; tongue moist, cleaning at the tip and edges, whitish at the centre. Pulse 88, feeble. Respiration 17. *R. Ammon. carb. gr. iij. quaque hora.*



Continue pills, essence of beef, milk punch. Flannel roller to be applied to the abdomen.

16th. Vomiting during the night; several stools; countenance contracted; pulse cannot be felt; skin cold and moist. Death at 6, A.M.

*Autopsy 16th, eight hours after death.*—*Exterior*. Moderate emaciation; no infiltrated rigidity; marked, upper and lower extremities.

*Abdomen.*—*Stomach* distended by a green liquid, of sharp acid odour. Mucous membrane in great cul-de-sac, one-third of length of stomach, dirty white colour, marked with bluish lines from submucous vessels, distended with blood; membrane pulpy, very thin, scarcely to be recognised in spots; same appearance, only a little less pulpy in whole posterior face; anterior face grayish-yellow, rather thicker than usual, and spotted with an infinity of little depressions, the largest a line or two in diameter; no injection; strips in this portion from three to four lines. *Small intestine*. Duodenum dotted with gray, firm; in rest of extent pale, in a few spots stained by the yellow liquid; no red injection, and very few submucous vessels; thickness slightly increased, with some diminution of transparency in upper half; strips from three to five lines; inferiorly more adherent; strips shorter, and scarcely to be obtained near the valve. Glands of Peyer dotted with gray, large, moderately prominent in whole inferior half; no thickness, redness, nor ulceration. Isolated glands not visible. Mesenteric glands small and pale. *Large intestine* containing a greenish, homogeneous liquid. Mucous membrane of cæcum and ascending colon pale, twice the usual thickness, semi-opaque, soft, from two to five lines thick at beginning of transverse colon; large ulcerations, with elevated edges, of a dirty gray ground, formed by the cellular tissue with remnants of mucous membrane thickened and brownish; inferiorly no trace of mucous membrane, except in rectum; cellular and muscular coat each one-twelfth of an inch thick, hard to the touch, gritting beneath the scalpel; base of ulceration greenish, irregular, with some round depressions in spots, covered by a very thin pellicle of yellow false membrane, easily detached. Liver large, reddish brown colour; two substances distinct, firm. Gall-bladder filled with yellow bile. Spleen seven inches long, five broad, two and a half thick, firm. Kidneys firm.

*Thorax.*—Adhesion of right lung posteriorly; tissue of both lungs permeable, rosy, not congested, not slightest trace of tubercles or hepatization, containing a little serosity; vesicles scarcely visible even in anterior edge. *Bronchi* in right lung pale.

*Heart* moderate size, containing liquid blood, firm; valves healthy, about two ounces of serum in pericardium.



I am indebted for the greater part of the notes of this case to my colleague, Dr. KIRKBRIDE. It terminated at a less advanced stage of the disease than the preceding observation; the ulceration had not passed to the stage of cicatrization; the anatomical lesions were in other respects not unlike those already described. There was not found in either case any trace of tuberculous matter, notwithstanding the long continuance of the dysentery. In this case also, the treatment was chiefly directed to support the strength of the patient sufficiently for him to rally from the state of extreme prostration into which he had sunk. Had it been successful for the time, it would then have become necessary to remove the patient from those sources of irritation which had kept up the disease of the intestine.

The follicles of the small intestine were in the normal state as in all the cases of remittent and intermittent fever and dysentery, contrasting strongly with the lesions found in the glands of Peyer and Brunner in the observations of typhus fever.

CASE III. *Chronic Dysentery—Cured—Contracted at Rio Janeiro—Eight weeks Duration—Treatment—Cups and Leeches to Anus, and Diet, with Opiates—Relieved by Acetate of Lead and Calomel.*—Robert —, æt. 36, seaman, born in Massachusetts, admitted November 5th, 1834. Is a seaman for last fifteen years, during which time he has been chiefly engaged in European voyages, and has been three times to South America. He had been but once sick, four years since at Baltimore, with cephalalgia, from vomiting and purging; the attack lasted only eight days. Sailed in June for Rio Janeiro, was perfectly well on the outward voyage, and for three weeks after his arrival there, when he was exposed to the rain at night for several hours, in an open boat. Next day had a chill, lasting an hour or two, the chills recurred every day, a little before noon, during a fortnight; he was then cured by bark, &c. remained nearly well, but still feeble, and with slight diarrhoea for a week, when he ate a quantity of oranges and green fruit; he was then taken with griping, and had more frequent discharges. When he left Rio he had six or eight stools a day, sometimes none. After being at sea a week or ten days, the stools recurred every hour, or every half hour, especially at night. Sometimes the stools looked like jelly; they were mixed with blood when he strained hard, and sometimes contained shreds of a whitish substance. Much pain was felt after the evacuation, like a knife passing through the bowels; sometimes tenesmus, and always after eating there was an increase in the frequency and quantity of the discharges. The only article of aliment he ever recognised in his stools was bread; (doubtful.) Appetite voracious; food, salt beef, shipbread



and coffee; the desire of food returned very soon after eating; thirst not greater than in health; urine abundant; no pain in back until entrance; no return of chills; no cough; strength sufficient to work in good weather, but could not go aloft; feebleness gradually increasing; œdema of the legs twenty days before his arrival, sometimes furuncles in different parts of them.

At his entrance ten stools in twenty four hours; pulse 96; skin dry, rather hot; pain across the abdomen, near the umbilicus. Twenty leeches applied around the anus on the 8th; cups to the abdomen on the 7th, followed by another application of leeches to the anus. R. Opii. gr. j. ft. pil. one every six hours. Diet, one cream of rice night and morning; four biscuits with a little butter. Drinks to consist of an infusion of the bark of the *Ulmus americana*. Some increase of diarrhœa on the 10th; not less than twenty dejections daily from 10th to 16th; on the 12th a grain of ipecacuanha was added to each of the opium pills. On the morning of the 15th, took, R. Calomel, gr. j.; acet. plumbi. gr. ij. quotidie; the opium and ipecacuanha continued.

*Detailed note, November 16th, 3, P. M.*—Hair black; conjunctivæ and skin slightly yellow; moderate emaciation; intelligence perfect; no cephalalgia; no dizziness nor ringing in the ears; sleep bad until last night; feeble, but can still walk about the room; tongue smooth and shining; papillæ not visible; soreness of throat; appetite perfectly good; could eat meat; four stools in the last twenty-four hours; thirty on the day before; they are now brown, less liquid than on the preceding days, when they looked like weak coffee; abdomen slightly tympanitic; some soreness above the umbilicus; no tumour nor hardness in any part; a little griping still felt before going to stool; skin warm, moderately dry; pulse 84, small and quick; respiration natural, twenty per minute; no cough. Continue pills of opium and ipecacuanha; suspend the calomel and acetate of lead. Diet as before directed.

On the 20th, two dejections in twenty-four hours; only one in the preceding thirty-six. Pulse 68, regular; no pain in abdomen. On the 17th he was taken with pain in the abdomen above the umbilicus, the sensation resembling strong constriction of the bowels. Fomentations of hops and opium were applied to the abdomen, and an oleaginous mixture directed. The pain ceased the day after its occurrence.

No return of the pain or fever occurred from the 20th of November to the 25th of December, when he had four liquid discharges without griping. Diet increased on the 12th of December to two mutton chops, and soup. The opium and ipecacuanha were still given, three grains of each in the day. The appetite was good; embonpoint



restored. The diarrhœa ceased again on the 28th of December. No further complaints, except of pains in the knee, which returned at intervals, until his discharge.

*February 2d.*—Discharged well. Skin a little yellowish; dejections once or twice daily, pultaceous, but never liquid; appetite good. Respiration natural. Pulse 80, regular.

*Remarks.*—At the entrance of this patient the treatment was restricted to diet rigidly enforced, topical depletion, and opium. This treatment, which very often has an almost magical success, was not of much advantage. Ipecacuanha was combined with the opium, but the discharges were not arrested until the use of the acetate of lead and calomel. The effect of the latter combination was so immediate, that no doubts could remain as to its influence in arresting the discharges which did not again become frequent when the remedy was suspended. Fourteen grains of the acetate of lead had been taken, when sharp pains took place near the umbilicus, not unlike those in painter's colic; these pains may have arisen from the immediate effects of the lead, or they may have been caused by the sudden suspension of the diarrhœa.

Three other cases of severe chronic disease of the bowels were admitted into the hospital. Of these, two were discharged much relieved, but the discharges were always pultaceous, and slight returns of diarrhœa occasionally took place. The third case was that of a seaman, who was taken ill at New Orleans; at his entrance there was a slight cough, which gradually increased, but little or no expectoration; the diarrhœa continued until the patient was reduced to the last stage of emaciation, and died five months after his admission. A few days before his death, great difficulty of breathing came on, with extreme resonance of one side of the thorax, and total absence of respiration. At his death tubercles were found in his lungs; one of them had caused an ulcerated opening into the cavity of the pleura, into which the air was admitted. This case will therefore belong to the tuberculous diseases.

The little success attending the treatment of the three cases, which did not terminate fatally, shows the extreme difficulty in the treatment of the chronic dysentery of warm climates. But one of these cases was regarded as cured, yet even in this patient the dejections were not entirely restored to their natural state; had he not submitted to a very strict regimen, it is not probable that the case would have ended as favourably. Of the two other cases, the patient who was most relieved, adhered strictly to a diet of farinaceous articles, and a little animal food.



ART. III. *On the Anatomical Characters of Asiatic Cholera, with Remarks on the Structure of the Mucous Coat of the Alimentary Canal.* By W. E. HORNER, M. D. Professor of Anatomy in the University of Pennsylvania.

ASIATIC Cholera, as a subject of periodical literature, has had its various topics so extensively discussed by the most cultivated minds of this and other countries, that it is extremely difficult to add any thing new to the description of its phenomena, or to communicate any other results concerning it, than such as are similar to those already well known; though, it must be admitted, that much remains to be learned. Medical *speculation* also has been so actively employed in *conjecturing* its central point, and determining the manner in which its irradiations bring all other parts of the system within its influence, that mere powers of invention or fancy are almost as much at a stand as those of positive observation. Under these circumstances it is evidently expedient to undertake a purifying process, and in expelling from the account of the disease every thing depending upon mere fancy and false observation, to narrow its limits within the confines of well ascertained facts. The diligence with which it has been studied by pathologists, here and in Europe, has certainly contributed largely to determine the question of its throne being in the alimentary canal; and the next process is to ascertain which of all the alledged anatomical lesions there, are the specific ones, and to detect others, if such there be, as yet unknown.

With the view of explaining the extent to which my personal observations of the disease have gone, I may remark, that when it prevailed in Philadelphia, in August, 1832, one of the municipal Hospitals, provided for the occasion, and situated in Dock street, was placed under my charge; at the same period I was passing through a tour of service at the Alms-house, in Spruce street, above Tenth, in the capacity of prescribing physician, where the disease assailed at least one-third of its inmates, amounting at the time to about five hundred, to which number they were reduced by dismissals and removals; my private business of the period also brought me in contact with several cases. The experience derived from the above opportunities was augmented during the months of September and October, 1834, by a partial renewal of cholera, in the ranks of private practice, and among the inmates of the Alms-house, transferred in toto to the new building in Blockley township, on the west side of the Schuylkill. The whole number of cases which, at various times, have fallen under



my attendance is considerably above two hundred, including hospital and private practice. This exposition is given simply with the desire to define the ground-work of the ensuing observations, and may answer instead of the more imposing and euphonical claim of "ample experience" occasionally resorted to, when an indication of place and time might be productive of some inconvenience to the writer.

The object of this paper being almost exclusively pathological, I have, with a solitary exception, omitted to mention cases of recovery after treatment, as I have nothing new to state in regard to the latter. The general result of my experience is, that the prodromes are with considerable certainty arrested by abstinence and rest, with very mild astringents—that the first period of the developed stage may be cured by bleeding and irritants to the surface, in a great number of cases, especially if the irritation already existing in the alimentary canal be not increased by drastic articles; and that the stage of acmé is next in certainty of result to a death warrant, the persons who escape from it being more indebted to a strong principle of life, than to any medication as yet devised.

With these preliminary remarks, I proceed to state, that the object of the present paper is to prove that in Asiatic cholera the following morbid anatomical characters are found in the alimentary canal:—

*First.*—A copious vesicular eruption, entirely distinct from the tumefaction of villi, muciparous follicles or glands, and which pervades the whole canal.

*Second.*—A lining membrane of coagulated lymph, which exists in the small intestines at least, if not in the stomach and colon also, and resembles in texture and mode of adhesion the membrane of croup.

*Third.*—Vascular derangements and phenomena which are confined almost exclusively, if not entirely so, to the venous system.

*Fourth.*—An exfoliation of the epidermic and venous lining of the alimentary canal, whereby the extremities of the venous system are denuded, and left patulous.

The singularity of some of these positions, especially the third and the fourth, the former of which invades the universal doctrine of arterial action in morbid derangements, and the latter assumes a ground\* as yet contested, and even generally reprobated by anatomists and by myself also until lately, calls for an exposition of the structure of the mucous coat of the alimentary canal, according with my personal observations of it.

\* The existence of epidermis.



I have always felt an extreme interest in obtaining a knowledge of the pathological changes in cholera; for the very evident disproportion, between the intense symptoms of the disease and the trivial appearances reported from thousands of dissections, exhibits an hiatus to the anatomist, well calculated to make him review all his knowledge of the natural structure, and to test its accuracy. The first appearance of cholera here, being in 1832, was attended with so much confusion, and such an uninterrupted demand upon time, that I found it impossible to study it anatomically to any extent and with much advantage; it was, in fact, an opportunity almost lost. Its recurrence last year presented cases so few in number, and with such intervals of date, that after making the recent dissections, I proceeded generally to more detailed and protracted observations by drying parts—steeping them in spirits of wine—injecting and other modes of preparation; and having in that way obtained my morbid standards, tried counter observations on natural structure.

The mucous coat of the alimentary canal, in a healthy state, and successfully injected, appears to consist almost entirely of a cribriform intertexture of veins; these veins being commonly empty at death present themselves as a soft spongy structure, which gives rise to the ordinary description of its sensible condition as a velvety layer. The most minute injection of the arteries scarcely makes itself visible among these veins when they are properly injected, a straggling branch only here and there exhibiting itself. The arborescence of the arteries is confined to the level beneath the venous intertexture, and is there developed to an extreme degree of minuteness, being intermixed with corresponding venous ramuscles, generally larger and more numerous than the arteries themselves. The fine venous trunks of this deeper layer have their originating extremities bent vertically towards the cavity of the gut, and by that means receive the blood of the first venous intertexture or layer, as the petrous sinuses join the cavernous, or the veins of the penis arise from its spongy structure. The meshes of the first venous intertexture are exceedingly minute, and vary in a characteristic manner in the stomach, small intestines and colon. This intertexture is very different in its looks from a common vascular anastomosis, and produces in the colon an appearance resembling a plate of metal pierced with round holes closely bordering upon each other; these holes constitute in fact follicles or gaping orifices, the edges of which are rounded off, and their depth is that of the thickness of the venous anastomosis being bounded below by the arterial venous layer, and by the cellular coat of the part. Nothing short of an entirely successful injection will



exhibit this venous anastomosis as described; and it may be seen either by injecting a vein, or an artery provided the injection passes from the artery into the veins, but the latter process is the least desirable, because we lose the benefit of a distinction of colour between the two sets of vessels.

As this *superficial venous layer* performs an important part in the pathology of cholera, I shall introduce the name here given, as a term to express that lamina of the mucous coat, and beg the reader's attention to it as now defined.

Ordinary modes of examination give no evidence of the existence in the alimentary canal, from the cardiac orifice of the stomach to near the anus, of an epidermis; on the contrary, they rather lead to a belief of its being absent, in consequence of the softness, tenuity, and transparency of the mucous membrane; but that it is really present, may be proved by the following process:—Tear off the peritoneal coat—invert the part and inflate it to an emphysematous condition; the epidermis will then be raised as a very thin pellicle, and may be dried in that state; but as this pellicle retains the air, we hence infer that it lines the follicles, and is uninterrupted by any perforations. This epidermis, if the part be previously injected perfectly, shows dots of injecting matter, but no arborescence if it be inflated up from the veins. In so doing the villi disappear, are in fact unfolded.

The villi cannot be seen to any advantage except they be erected by an injection, in which case those of the upper part of the small intestines are found to run into each other very much like the convolutions of the cerebrum, and to press upon each other's sides in the same way. Some of them, however, are merely semi-oval plates, the transverse diameter of which exceeds the length. At the lower end of the small intestine they become simply conical projections, somewhat curved, with the edges bent in, and they retain this mechanism until they entirely disappear near the ileo-cæcal valve. In the whole length of intestine there is, however, every variety of shape, from oblong curved and serpentine ridges, to the flattened cone standing on its base; the first condition changing gradually to the last in the descent of the bowel. Conformably to this definition of villi, none exist either in the stomach or colon, for there we have only the venous mesh. The villi of the jejunum are about the thirtieth of an inch high, and those of the ileum about one-sixtieth.

The superficial venous layer has great regularity in the ileum,  
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and the conical villi stand out beautifully from its partitions, or, in equivalent language, from the divisions of the follicles. In the upper part of the small intestine the follicles are in equal number to what they are in the ileum; the regularity of their arrangement being interrupted by the long serpentine and oval villi; but invariably the same venous intertexture exists and forms in both, the chief bulk of the villi by passing into them.

In the stomach the *follicles* vary much in size, and there is an arrangement whereby many of the smaller ones are seen to open into the larger; on an average about two hundred and twenty-five are found upon every eighth of an inch square, which would give of course to an inch square sixty-four times that amount, or fourteen thousand four hundred follicles, and conceding the whole stomach to present an area of ninety inches, which is probably below the mark when this organ is moderately distended, as exhibited in the preparation upon which this calculation is founded, the entire number of follicles is *one million two hundred and ninety-six thousand*.

The greater uniformity of size of these follicles in the colon, and its even surface, enable us to count them with more certainty, and they appear to exist at the beginning of this gut at the rate of about four hundred for every eighth of an inch square, and in the sigmoid flexure at the rate of about two hundred to the same area; they become, in fact, both smaller and less numerous in descending towards the anus. Admitting the entire area of the colon to be five hundred inches, and nineteen thousand two hundred of these follicles, on an average, to exist on every inch square, the aggregate number will be *nine millions six hundred thousand*.

Again, estimating the whole area of the mucous coat of the small intestines at fourteen hundred and forty inches, and allowing for interruptions occasioned by villi, about twenty-five thousand follicles are found upon every square inch, and the two numbers multiplied, produce *thirty-six millions*.

The entire number of follicles in the whole alimentary canal is, by the preceding estimates, forty-six millions, eight hundred and ninety-six thousand. I am very far from pretending to have counted them all, but have made an approximation to the actual number by observing sections of different portions of the same subject, and verifying the observations upon other subjects. The external surface of the cutis vera presents, as it were, in outline the same arrangement; the venous reticular intertexture appearing broader, not quite so perfect, and more shallow, and forming the papillæ; but as additional experiments are wanting it, it may be passed over with this



transient notice; perhaps, indeed, a more skilful hand in adopting the hint may perfect the details.

In the stomach, the largest of these follicles is about  $\frac{1}{98}$ th of an inch in diameter, and the smallest about  $\frac{1}{490}$ th. In the colon the largest is about  $\frac{1}{245}$ th of an inch in diameter, and the smallest about  $\frac{1}{490}$ th. In the small intestines their size varies in about the same ratio as in the colon, but they are much more irregular in shape, being scattered more in groups in consequence of the villi intervening; some of them penetrate obliquely towards the foundations of the villi, hence when examined from the exterior, their distribution is more regular, and they are seen lodged in the cellular coat of the gut.

I have endeavoured to keep the estimate of the number of follicles below what other calculators would make it upon an observation of my preparations, and a fair measurement of the area of the alimentary canal, lest the number may seem excessive and incredible; I have therefore the most reasonable assurance of being within bounds on that point. I may now ask their use; is it to secrete or absorb? If they are simply secernents of mucus, the number, one would think, much greater than so limited a secretion requires—moreover, why is it that they become smaller and less numerous towards the lower end of the large intestine, where greater lubrication is required for hardened fæces; in addition, are not the glands of Brunner, (solitariae,) and of Peyer, (agminatae,) amply sufficient to furnish the required mucus? Again, after most sedulous observations upon the villi of all kinds, finely erected by my injections, and placed under most accurate, simple, and compound microscopes, I find invariably a polished reflecting surface, uninterrupted by foramina, either at their ends or sides, while many of these follicles are found passing obliquely into their bases. An excellent Woollaston's doublet, which makes the villi of the ileum appear an inch long, exhibits them with a polished translucent surface, without foramina, except where a villus from accident has been broken, a contingency readily recognised by one in the habit of viewing them. Finally, if the lacteal foramina of Lieberkuhn and others, do exist in fact, why is it that the raising of the intestinal epidermis by inflation does not exhibit these foramina by the air escaping through them, but on the contrary, admits of a dried preparation in that state, the villi being completely effaced.

In these and other microscopical observations, I have been much assisted by my young friend, Dr. PAUL BECK GODDARD, who has acquired an accuracy and skill in such matters deserving of confidence.



Taking into consideration these several objections to the theory of the follicles being secreting orifices, it appears to me that a better idea of their use is called for, which suggestion is submitted to the profession, with the hope that a more capable person will remove the difficulty by additional confirmation of preceding theories, or by the invention of a new one; for my own part, I am much inclined to adopt the opinion of their absorbing faculties. It is generally conceded that the erection and prehension of the Fallopian tube is produced by a vascular turgescence, in which the veins, from their number, must execute an important part; in like manner as these follicles are formed in the midst of veins, their orifices only become erect and patulous by the distention of those veins, and cannot be seen, especially in the small intestines, unless an injection has succeeded fully; but the erection of these veins during digestion puts the follicles in a similar condition; there is therefore some ground of inference, that the act of the Fallopian tube in conveying a germ, and of a follicle in conveying into the thickness of an intestine congenial matter, may be analogous.

Notwithstanding the facility with which I can detect these follicles, I have failed entirely under various means of examination, in finding any orifices to Peyer's glands, in the dried intestine; they appear to be merely small lenticular excavations in its substance, and wherever a cluster of them exists, it disturbs the arrangement of the villi, and gives to them a scattering unequal distribution. I would also suggest very respectfully to anatomists, whether our knowledge in regard to them is sufficiently exact to render further inquiry useless? for my own part it appears that this subject requires some additional attention.

An able exposition of the precursory indications of the epidemic and its statistics, for 1832, in regard to this city, having appeared from the pen of my colleague, Dr. SAMUEL JACKSON, (Vol. XI. p. 289, of this Journal;) the reader desiring information on those points is referred to it.

As cholera is exhibited under every gradation, from a mere shade of indisposition in the action of one or more functions, to the unequivocally moribund condition, I shall with the view to a methodical use of my own observations consider its stages to be those of incubation, maturity and acmé, preferring these denominations to such as express particular symptoms, for the reason that scarcely any single symptom is invariably found even in cases which in other respects present no obscurity. It is to be regretted that this or a similar classification is not universally adopted in reports of practice, as it would enable us



to appreciate more exactly the value of treatment when the cases are not detailed. The first stage we know to yield in a vast majority of instances, to almost any kind of medication which is not highly perturbing, and it would perhaps yield, from its natural tendencies to a cure, with about as much certainty to a restricted regimen and a warm bed. The other stages require the interposition of art, and manifest the skill of the practitioner. It is, however, worthy of remark, that under every variety of practice, the general results in a large population vary but little, in exhibiting one death in every three reported cases. A fact which may well induce us to doubt whether any real progress has been made in perfecting the treatment of cholera, since its first appearance in India, in 1814.

The appearance of Asiatic cholera at the Alms-house, Blockley, in 1835, was ushered in by the following equivocal cases, exhibiting as subsequent events proved, the livery of this disease, but in characters so doubtful, as to leave us in much indecision in regard to their real nature at the precise date of their occurrence.

Copied from Drs. SKINNER'S and PORTER'S Book of Cases.

“Mary Kurtz, aged fifty years, admitted into women's medical ward upon the 15th of September, 1834, about 3 o'clock, P. M. Stature small and frame rounded. She had had diarrhœa for twenty-four hours previously to her admission. The countenance was of so peculiar a cast, that I pronounced upon the nature of the disease before questioning the other symptoms. Intellect sane; the lips, tongue, and extremities were cold; corrugation of the skin of the hands and feet; nails blue; voice broken; respiration embarrassed; thirst intense, eyes sunken, with an occasional spasm of their muscles, and turning the balls upwards; nausea, but no vomiting; she had the latter prior to her admission; the discharges from the bowels were not frequent or large; they were of a light pink colour, of a watery consistence, and smelled badly. During her expiring moments the whole muscular system was exceedingly convulsed.

The usual rubefacient measures were resorted to, but with no apparent good effects. Ice cold wine was given, but with no benefit. A vein was opened upon the back of the hand, but no blood flowed; then one in the arm was divided, and one ounce of blood was taken with difficulty; it was nearly black, and quickly coagulated, with no separation of its parts. About two hours before her death, which happened about 8 o'clock on the same day of admission, I gave her ℥j. of calomel.

An examination of the body was made eighteen hours after death by Dr. Horner, in the presence of the resident physicians.



Upon turning aside the muscles of the abdomen, the small intestines externally were found injected with blood to a light scarlet redness. Stomach was contracted, and contained a considerable quantity of mucus. The inner membrane had upon it several large patches, of a deep red injection, but was unaltered in its structure. Nearly the whole of the small intestine contained mucus, or mucus and blood, or mucus and pus. In the upper part the former abounded, and in the lower part towards the valve the reddish discharge was found. The mucous membrane nearly throughout its extent was injected to a bright red colour. On dividing the coats of the intestine, the sub-mucous tissue was found very deeply injected, with numerous vessels filled with blood. The colon was not so much injected, and contained a whitish fluid of the consistence of cream. Bladder slightly contracted, and contained urine. The gall-bladder contained bile of nearly a healthy colour. The calomel was found both in the stomach and colon; pancreas healthy. Dissection not carried further."

At the same time, Patrick Murphy, a black man, aged thirty, and under treatment for dysentery of some duration, was seized suddenly in the night with frequent and large evacuations of serum, sunk away and died before day. On examination in the afternoon, the mucous coat of the colon was found covered with red granulations, and small ulcers, as in other cases of somewhat protracted dysentery, but there were no particular traces of cholera.

CASE I. *Philadelphia Alms-house, Blockley, September 23d, 1834—Asiatic or Malignant Cholera—Sudden death at night, without any one being aware of the illness.*—H. S. Mulda an inmate of some years, supposed age about seventy, a Norwegian by birth, appearance highly venerable from a long flowing white beard, which he took great pleasure in cultivating, but which was removed from him by force a short time before his death; stature five feet seven inches; habits extremely regular; demeanour quiet; mind unsound; remarkable for his taciturnity and for his reserve about his own history; went yesterday afternoon near sundown to a pile of fresh oyster-shells and was seen nibbling at them; he also may have got some oysters from them in an unsound state. His common usage having been to touch nothing but bread and water, as he was perfectly temperate, it is difficult to account for this whim about the oyster-shells. Nothing more was observed of him till this morning early, when he was found in bed dead, sitting against the wall at the head of his dormitory. His limbs were rigid; a chamber-pot was full of rice-coloured water, and some was found on the floor.



*Autopsy, at 1 o'clock, P. M.*—No putrefaction; a blueness at the ends of the fingers and toes. Peritoneum dry. Stomach contained a gruel-like fluid, of a light slate colour, and was universally variegated with spots of red inflammation in its mucous coat, which was softened. Small intestines: mucous coat of a light red colour, decreasing down to ileo-colic valve, and containing the sero-fibrinous fluid commonly called rice water; Peyer's glands very distinct. Having thrown a minute size injection into the vessels of the small intestines, and dried them, I found adhering to some of the valvulæ conniventes groups of small vesicles which did not seem to have reached that state of maturity exhibited in subsequent preparations of other subjects. This may have arisen from the suddenness of death after the invasion of the disease. A single vesicle like a marble on a board, and distant from the others, seemed to have reached the matured stage. Colon: mucous coat nearly white, with here and there a light pink tinge; its head and ascending part contained the same sero-fibrinous fluid; the remainder was generally contracted, with the exception of intervals affording a collection of the like fluid. Small sharp fragments of oyster-shells were found along the whole alimentary canal, so that if all had been collected it would have amounted to several tea-spoonfuls. The veins of the alimentary canal were all congested with blood. Bladder contracted. Rectum contracted. Liver, excepting effects of old age, healthy. Gall-bladder contained an ounce of mucus deeply tinged yellow with bile. Spleen sound. Lungs perfectly sound, as healthy as those of a calf, and no congestion in them; of the grayish tint peculiar to old age. Aorta perfectly sound, elastic like that of a child, of a brilliant white internally, showing the temperance of the man.

CASE II. *Alms-house, Blockley, September 24th, 1834—Death in eight Hours from first Invasion—Mollescence of Mucous Coat of the Alimentary Canal,—Fibrinous Lining.*—John Thomas, aged fifty-three, naturally a robust man, but now reduced to a middle state of emaciation by a pectoral affection, has been in this house for a fortnight or so, in which time he has been treated for chronic catarrh, attended with large discharge of muco-purulent matter.

Being seized suddenly with the characteristic symptoms of cholera, which I may omit here, he went rapidly into the cyanose state and died at the end of eight hours.

*Autopsy.*—The stomach and bowels contained a great abundance of cholera, (sero-fibrinous,) fluid; that in the stomach was tinged yellow from regurgitated bile, and it exhibited the same colour in



the duodenum and upper part of the jejunum from the same addition; but in the remaining portion of the intestines it was of the common semi-transparent appearance, becoming turbid on agitation, but subsiding clear in a short time.

The mucous coat of the stomach and bowels was so soft as to be torn off easily by scratching with the end of the nails. The whole alimentary canal had a macerated aspect, such as we see when it is found somewhat congested with blood and is afterwards soaked in water for a day or two. The small intestines were lined by a thin soft fibrinous layer or film, which was easily detached; a very faint pink colour perceptible in spots on the mucous coat of the stomach and bowels. Some remains of undigested fruit, thought to be cantelopes, were found in the alimentary canal; lower part of colon and the rectum much contracted; urinary bladder drawn up into a ball.

CASE III. *Alms-house, Blockley, September 24th, 1834—Asiatic Cholera—Fibrinous Lining of Small Intestines.*—Jacob Myers, a black man, aged thirty-six years, of a make somewhat robust, and under treatment for a scrofulous tumour of the shoulder, died last night under well-marked symptoms of cholera, which terminated in eight hours from the first invasion of the affection.

*Autopsy.*—The mucous coat of the stomach and small intestines had a strong inflammatory tinge; the latter were filled with sero-fibrinous fluid, and were lined in almost their whole length by a layer of fibrine; this layer was about half a line in thickness, and adhered to the mucous coat as a layer of fresh fibrine does to the pleura or peritoneum; that is to say, with a degree of tenacity permitting it to be rubbed off with the finger or floated in water, so as to exhibit both its adhesion to the intestine and its distinction from it. Having taken a piece of intestine home and hardened it in alcohol, the layer of fibrine was made manifest beyond controversy, and required to be separated with the end of a scalpel, exhibiting in that way its course uninterruptedly over the valvulæ conniventes, and down in the depressions between them. The difference marked in the thickness of this membrane was, that it began as a film in the duodenum and increased insensibly to half a line at the lower end of the ileum. At the suggestion of Dr. PHYSICK I took a piece of the intestine, which had been preserved in alcohol, and after a maceration of a week, in a room the temperature of which was seventy degrees of Fahrenheit, the membranous character of the lining was still preserved.

A similar membrane was not found adhering to the internal coat



of the stomach and colon. The shade of the latter was several degrees less inflammatory than that of the stomach or small intestines. Peritoneum dry. Other abdominal viscera healthy. Gall-bladder filled with yellow mucus. Bladder contracted.

CASE IV. *Alms-house, Blockley, September 25th, 1835—Asiatic Cholera—Fibrinous Lining of Small Intestines.*—Thomas Parker, black man, aged twenty; previous disease an ulcer; habits intemperate; make muscular; symptoms well marked, and which continued twelve hours from their first invasion. He had taken Aq. camph. ℥i.; and Tinct opii, ℥i. occasionally repeated.

*Autopsy.*—We found in him the same sero-fibrinous fluid filling the alimentary canal; the same inflammatory tinge of the mucous membrane of the stomach and bowels, especially the small, and the same lining of the latter by a fibrinous membrane adhering to their walls, and coating them like the lining of fibrine to the trachea in croup. The small intestines flaccid but distended with the sero-fibrinous fluid, which, when it had rested in the loops of the intestines, was as clear as whey. The lower half of colon contracted and empty. Peritoneum dry. Gall-bladder contained ℥ij. of mucus tinged of a deep green by the bile. Urinary bladder contracted. Other abdominal viscera perfectly sound. Thorax sound. Muscles of the colour of the leg of a chicken just killed.

Two other patients died suddenly complaining of pain in the abdomen. One we knew to have a hypertrophy of the heart; on dissection it was found of double the natural size, and of a sort of leathery feel. The leftostium venosum was contracted to half an inch in diameter, and had vegetations on its valves. The orifice of the aorta was contracted to the same size, and its valves were also covered with the same sort of vegetation. This man had the usual attendants of such a heart, to wit, dropsy of pericardium ℥iij.; dropsy of each pleura Oij.; dropsy of peritoneum, and general anasarca. The bowels did not seem to have been moved, as the colon was occupied with consistent fæces. There was, in fact, no internal evidence of cholera. Bladder distended with urine.

The other, a black man, was also examined, who was admitted in the afternoon of the 24th, complaining of dysentery. I found no evidence of cholera in him; the small intestines and large were without fæces, but occupied by mucus tinged green with bile and entirely destitute of any thing like a sero-fibrinous fluid. He had taken Aq. camph. and laudanum, and the mucous coat of the stomach was reddened perhaps by them. His muscles were of a beef red colour, and all the organs of the abdomen, thorax, and the brain sound; the



only thing wrong was air in some of the veins of the pia mater in the top of the right hemisphere and in the venæ galeni. As he had been dead about four hours only, there was no putrefaction; the inquiry therefore is, whether the development of gas in the blood vessels of the brain was the cause of his death?

Among the most remarkable of the phenomena of Asiatic cholera, is the extreme rapidity with which it carries off anasarcaous effusions. Mr. GENDRIN, (*Monographie du Cholera Morbus*, p. 5,) mentions the great surprise he encountered from a patient of his hospital who had chronic pleurisy with ascites; where in one night the ascites disappeared under the influence of a serous diarrhoea, the man dying the next day with the symptoms of cholera. A strong illustration of this fact was presented in our own clinical observations, as follows:—

CASE V. *Alms-house, Blockley, September 28th, 1834.*—John Wellwood, aged thirty years, was admitted about a week ago for anasarca from his crown to his feet, and which had bloated him up to the size of a very fat man, obscuring completely the glans penis by the elongation of the prepuce, and making the scrotum the size of a quart measure. An attempt was made to remove this effusion by elaterium, but the article, even a dose of half a grain, disagreed with him so much that it produced convulsions, and was therefore abandoned. We next resorted to an infusion of horse-radish in cider, and while he was under the administration of it a copious serous diarrhoea ensued, which, in two or three days, removed the whole of the anasarca, and left him an extremely emaciated man. Within twenty-four hours of this date he had discharged, per anum principally, at least two gallons of serum. His pulse is now weak, his voice feeble, skin cold, and he has the strongest indications of going into the collapsed stage of cholera:

Wellwood died at 3 o'clock on the morning of the 29th, the diarrhoea having continued notwithstanding the administration of astringents, opiates, and other expedients to arrest it. At 11 o'clock, A. M. of the same day, I examined him in the presence of the house pupils and physicians.

His stomach and bowels contained to the amount of a pint and a half or two pints of a sero-fibrinous fluid, mixed up in a very pulpy state, such as we sometimes see in ascites. At intervals the fluid resembled more the rice-water discharges, which were collected in small quantities in separate loops, especially of the small intestine.

Externally the alimentary canal had the pink colour, with turges-



cence of the veins so commonly ascribed to cholera. The peritoneum rather moist than otherwise.

The mucous coat of the stomach, at the great end, presented a broad ecchymosed and punctated patch the size of the hand, and the same prevailed in smaller patches, at somewhat distant intervals, over it. Stomach flabby. Except the general tinge from the congested veins, the mucous coat of the small intestines did not present any thing very particular in its condition generally: many of the valvulæ conniventes of the jejunum presented red patches of six lines diameter, of infiltrated blood of a black colour. Peyer's glands not visible; Brunner's, especially in duodenum, the size of flaxseed, did not contain any thing like cholera fluid as asserted by some. Large intestines natural; glands visible, but with no peculiarity.

In this subject the fibrinous lining of the small intestines did not exist, possibly from that element of the blood having been impaired and reduced by his previous anasarca. Spleen of small size. Liver natural. Gall-bladder in middle state of distention, containing mucus tinged deeply yellow with bile. Urinary bladder contracted. Kidneys, when papillæ were squeezed, yielded the puruloid matter spoken of in cholera, but no urine.

The sclerotica was dried transparent in the fissure between the lids, so that the choroid shone through it. The exterior of the body did not present any thing very peculiar except the red and clammy state of the hands. The cellular substance, to my great surprise, had the cholera dryness notwithstanding its recent anasarcaous condition. The beginning of the colon was injected minutely with size, and some portions of the small intestine, and dried. I found then upon the appendicula vermiformis, a few cholera vesicles attached to its mucous coat; the head of the colon did not exhibit them, but presented an abrasion, which possibly may have followed their evolution and removed them. This abrasion of the superficial venous layer was so complete that not a vestige of it was left except the small solitary trunks which project inwards to receive its blood like the petrous sinuses receive that of the cavernous by reducing it into longitudinal channels.

*October 2d.*—A patient, named Jonah Warren, aged sixty-nine, died in the white surgical ward, in the asphyxied state, which lasted for two days; but as his friends removed him we lost the chance of examination.

**CASE VII. Asiatic Cholera**—*September 30th, 1834—Stages Accelerated—Death in Eight Hours and a half from the Inception or Incubation.*—Joseph Strahan, city commissioner, a short muscular man,



æt. 50, had without previous indisposition, this forenoon at 11 o'clock, a large liquid stool, without pain; he became somewhat weak, and his head a little confused.

He dined at 1½ o'clock, P. M. eating lightly of roast pork, sweet potatoes and beets. About 2 o'clock he thought of going to the office to pay off some men; his wife, as he complained, wished him to stay at home, and send for a doctor. In a little time he felt chilly, and went to the bed room, where a fire was kindled. About 3¼ he was seized with a violent spasm, and I saw him at 4. His skin was then cold; his countenance cadaverous; a cold exhalation about the wrists and hands; no pulse; consciousness retained; excruciating spasms in both legs; sometimes more in one than another; vertiginous; in a few minutes he lost his vision, but it returned in half an hour. I opened the median basilic vein in the left arm, as it hang over the side of the bed, and got an interrupted small stream of black blood; by coaxing the arm, and keeping the bandage on for an hour, sixteen or eighteen ounces in all were got. At 4½ o'clock he had an universal convulsion, with stoppage of the breath, and an appearance of being in the act of dying, which lasted for a minute, he then became conscious. About 5½ the median cephalic vein of the right arm was opened, and by coaxing also, we got away about eight ounces more, which flowed in a cold stream, of the temperature of his hand. At from 4½ to 5 o'clock, ℥j of pulv. ipecac. was administered; this not vomiting in due time, a mixture of salt and mustard in warm water, a table-spoonful of the first to a tea-spoonful of the second was given; this also failing, ℥ss. of ipecac. again was administered; this failing too, Dr. STEWART, the family physician, who had joined me at the moment of the first bleeding, passed the feathered end of a quill repeatedly down the œsophagus, which failed too; feeling at this period an inclination to stool, he got up, but in a state of extreme debility; no evacuation followed.

There being no chance of producing vomiting from what has been seen, spirits of camphor, and laudanum were administered every half hour; turpentine and camphor had been constantly rubbed upon his legs; a mustard plaster was now put on the pit of the stomach. About 5½ o'clock, a dozen cups put on epigastrium. At this time the pulse was perceptible at the wrists; and the face took a better colour. He complained, however, of excessive pain in the stomach, of a load on his breast, with difficulty of breathing. His breath was now cold, and the end of the tongue; the latter was also white, and exsanguous. A perspiration stood upon his forehead; his hands and wrists still cold and clammy.



The symptoms went on till 7½ P. M. when he died. The family being opposed to it, the benefit of an examination was lost.

CASE VII. *Stage of Maturity—Cured by Bleeding.*—Gardiner, æt. 50, in the Philadelphia Alms-house, for a chronic rheumatic affection of the neck, for which he was under treatment by a seton below the part. Was seized this forenoon, September 29th, 1834, about 9 o'clock, with vomiting and purging of serous matter; his pulse was enfeebled; his skin cold, and a face naturally florid, of a bluish tinge. Spasms in legs.

He was cupped over the abdomen; and had ice given him to hold in the mouth. At 12 o'clock I saw him, and directed the following formula:—Aq. camphorat. ℥v.; Sp. lavand. ℥ss.; Tinct. opii. ℥iss. M. Take a table-spoonful every hour till the diarrhœa and sickness are abated. Venesection, ℥viii. Stimulating frictions of Camph. Sp. turpent. and Oil of origanum, mixed; sinapisms on various regions. 5 o'clock in afternoon, state about the same; ordered him to be bled again at 8 o'clock, which was done, and about ℥iv. were obtained. Other treatment continued.

September 30th, 11 o'clock.—I find reâction fully established; a glow in skin; full elastic pulse, and strength returned. Vænesect. ℥viii. Camph. mixture discontinued.

31st. Patient well.

CASE VIII. *Incubation Lasting for Two days—Great Abundance of Vesicular Eruption on Intestinal Canal—Loss of Epithelium of Stomach—Softening of its Mucous Membrane.*—Mrs. —, æt. 37, of a delicate frame of body, who had been last spring much indisposed with dyspeptic symptoms and extreme debility, with a disposition to œdema of the legs, and whose general habit was that of costiveness, was seized in the morning of Wednesday, October 1st, with what she considered simple diarrhœa of a watery kind. The complaint continued that day, during the night, and also on the next day, when to it was superadded vomiting. I saw her on Thursday evening, at 8½ o'clock, and prescribed for her the camphorated mixture as above, every hour or two; directed sinapisms to feet and epigastrium. As none of the evacuated matter was at hand, I could not tell the character of it, but suspected cholera, as the pulse was small; the tongue flabby, white, and exsanguineous; skin rather cold, with some epigastric pain; prostration.

At my visit on Friday morning, 9½ o'clock, I found that she had vomited a thin watery fluid, and purged the whole night a matter consisting of serum, with a large proportion of albumen, somewhat tinged red or pink, with a small quantity of shreds of lymph in it.



As the fluid had been at rest, the serum was supernatant, and the other formed a thick deposit like gruel at the bottom; in other words, she had the true cholera discharge, and was in the matured stage. At an early hour in the morning, her husband had called upon me, to represent her condition, and I then prescribed a solution of bicarb. of potash, with gum Arabic in mint water and laudanum every hour. At my visit I found that this medicine had been rejected by vomiting; that the prostration had augmented; pain in epigastrium increased; restlessness; lethargic indifference to things around; great oppression in the breast; cramps of legs; pulse smaller and more rapid. I then prescribed extract opii, gr. ss. every hour, till three grains was taken; wine whey ad libitum; injection of tinct. opii, ʒj.; frictions of sp. turpentine. At 1 o'clock I found that the opium had stopped the purging and vomiting almost entirely; the case, however, had progressed in all its essential symptoms, and the cholera face, which had been rather doubtful before, was now fully expressed. As her common emaciated state had left but little red blood in her, the cyanose colour was absent, or at least doubtfully present.

As it is useless to trace symptoms further, it may serve merely to state that the asphyxiated state marched forward incessantly to its acmé, and in spite of our exertions, she died at 10½, P. M.

*Examination, assisted by Dr. Gerhard, October 4th, 1834, eighteen hours after death.*—Facies choleric; tetanic rigidity of all the muscles; abdomen pasty; fingers bent firmly, somewhat corrugated and blue at the ends.

The peritoneum was dry; stomach and bowels moderately distended; the small intestines presented the peculiar pink colour of cholera, with here and there a loop with the veins most minutely injected with black blood, so as to give a crimson colour.

The mucous coat of the stomach was slightly injected, spongy, and so soft, that it was easily scraped away with the nail and with the ring handles of the scissors. The mucous coat of the large intestines was in the same condition; that of the small intestines was much reduced likewise in consistence, besides presenting its veins finely injected. The muciparous glands were all enlarged, and the villi tumid.

The alimentary canal entirely free from fæces; contained the cholera fluid abundantly, and of a gruelly consistence, tinged somewhat yellow in the stomach and duodenum.

There was no indication of scirrhus or ulceration to mark her former gastro-duodenitis. The liver was in a flabby state, with its granuli reduced in size, the flaccidity of it resembled what might



be represented by a liver half dried. The gall-bladder contained bile. Spleen small. Pancreas healthy.

Kidneys healthy, but contained in tubuli the puruloid matter of cholera. Bladder contracted. An ancient adhesion of fimbriated orifice of Fallopian tubes to ovaria, so as to occlude them; she had never borne children. Uterus small, but healthy; lining membrane of body red in patches; canal of neck glued up by a strong gelatinous effusion, which could be drawn out in shreds and traced into the orifices of the follicles; it was quite as tenacious as in pregnancy.

. There had been, during her illness in the spring, a strong epigastric pulsation; we found the aorta sound, as well as other arteries, so that it must have come merely by the stroke of the aorta communicating its impulsion to the liver and stomach.

Having by frequent examinations become convinced that the seat of cholera is in the abdomen, I did not extend my observations to other cavities.

In this case I made a minute injection of the pyloric end of the stomach, of some sections of the jejunum, and of the beginning of the colon and adjoining part of the ileum. The injection penetrated both arteries and veins with an almost inconceivable minuteness. In regard to the veins, when the parts were dried they opened on the internal surface of the bowels and stomach, as if excoriation had left their orifices bare. Hundreds also of cholera vesicles were found on the mucous coat of the jejunum jutting out from its surface in a spherical form so distinct as to leave no doubt of their being neither tumefied villi, follicles nor glands; they were especially numerous along the bases of the *valvulæ conniventes*. The superficial venous layer of the colon was entirely detached, except in a few places, and there it seemed like the skin of a locust just ready to fall off, it being so loose that the injecting matter had not passed into it. It there presented the cribriform appearance, being actually perforated from side to side by the sloughing process. No vesicles were found in the colon, and probably for the reason that they had been removed by the sloughing of its cuticle and superficial venous layer; neither were vesicles found in the stomach, and probably for the same reason.

CASE IX. *Alms-house, October 5th, 1834.*—Joseph Walker, a black man, aged fifty-four, suffering from hemiplegia, was seized with diarrhoea on the 2d instant, which he did not report till the next day, when the symptoms of Asiatic cholera appeared in the evacuation by the stomach and anus of large quantities of the cholera fluid; his disease progressed under the usual form into asphyxia, which was attempted to be resisted by large doses of a mixture of acetate of



ammonia, extract of opium and camphor water, with stimulants to surface. He died on the 5th instant, about 1 o'clock, A. M.

On *examination*, in eleven hours afterwards, the state of all the abdominal viscera was so much the same with that in the preceding case that they seemed to be identical in pathological appearances. In addition, a large ulcer was formed at the pyloric end of his stomach; some small ulcers, seemingly of an anterior date and tuberculous character, existed in the small intestines, and a plate of lymph was found adhering to the upper part of the jejunum.\*

CASE X. *July 29th, 1832—Autopsy five and a half hours after Death—Present Dr. Hodge, the prescribing Physician, and several others.*—William Ellis, aged forty-seven, intemperate, a resident of the Philadelphia Alms-house, of muscular make, but subject to rheumatism, was seized on the 28th, at 9 o'clock, P. M. with sickness of stomach, purging, pain in the epigastrium, and other symptoms of Asiatic cholera. In the same ward, a few days before, another man had been attacked with this disease, and died from it. After the symptoms had continued for some time, he went into the state of collapse.

I saw him for the first time, and at the request of Dr. Hodge, at 9½ o'clock, A. M. on the 29th, the date of this paper. His state then was as follows:—skin universally cold to the feeling, and somewhat inelastic and flabby, cloudy and opaque; blood could be discovered in its veins, which, in fact, were filled with it, but not to extreme distention; the circulation of it was languid, but yet perceptible, for when a vein was emptied by friction it filled up again. There was no moisture on his skin though it had a damp clay-like feel. His tongue was cold but moist, and only slightly furred. His respiration was full and heavy. He was comatose, but only to such a degree that he could be roused and caused to answer a question pertinently, by slapping his face and calling him loudly by name. There was no pulse at the wrist, but it existed about the middle of the brachial artery, and beat from 160 to 170 in a minute almost imperceptibly. His breath was cold. The pupils were contracted, and the eye had a glassy cadaverous look. His muscles occasionally twitched, especially in the arms, but there was not an universal spasm.

At this time it was said that he had not purged or vomited for some hours. The treatment up to this period, from the beginning of the attack, consisted in an extensive vesication of the fore-arms;

\* Not being apprized at this time of the existence of the vesicular eruption of cholera, I did not observe the proper mode of detecting it.



stimulating frictions; twelve grains of opium and volatile julap, which seemed very disagreeable to his taste.

Dr. Hodge being desirous of trying the effects of the injection of a weak solution of muriate and carbonate of soda into the veins, I opened the median basilic vein, and with the assistance of Dr. HOPKINSON threw in by small quantities at a time, about five pints of this solution, the whole operation occupying about one hour and a half. Dr. Jackson held the stethoscope to the heart, and found its action increased as well as the respiratory murmur of the lungs; the capillary circulation seemed also slightly quickened by it. These effects were very transient, and the patient died at 11½ o'clock.

*Autopsy, 5 o'clock P. M.*—Skin of very much the same hue as before death; muscular system in a state of rigid fixidity, the belly being swollen and immoveable.

*Head.*—Brain healthy, its veins being only moderately distended; it was watery, which may have been caused by the injection; consistence good; a drachm of serum in each lateral ventricle.

*Thorax.*—Viscera healthy; scarcely any blood in right side of heart, it may have run off by opening the brain previously; not much in left side; no coagula. Lungs, posterior part infiltrated, and engorged with blood, as common in dead bodies; they collapsed on opening thorax.

*Abdomen.*—Peritoneum healthy; a rosy tint on exterior surface of all the bowels and stomach. Liver of a light colour; spleen healthy; pancreas healthy; gall-bladder filled with bile.

The stomach contained a pint of a dark watery fluid, consisting principally of the drinks of the patient. The duodenum and jejunum were flaccid and filled with a fluid like cream in colour and consistence, but slightly odorous; the ileum and the colon were filled with a fluid much more watery than the last, as if a good deal of water had been added to it, or it resembled cream and water, or thin wheat flour gruel. There were no fæces in the intestines, no bile, and only here and there a small loose cake of mucus.

The mucous coat of the stomach and bowels was of a healthy consistence, and tinged of a pink red, as if there might have been a considerable vascular turgescence which had subsided on death, as in the eruptions of the skin. Their appearance, besides, was somewhat as if they had been dusted with flour or pearl powder, allowance being made for a moist surface. The muciparous glands, from one end to the other of the intestinal canal, enlarged, especially the glandulæ solitariae. The bladder was contracted into a hard empty ball. The femoral, anterior tibial, humeral, radial, ulnar, and all the other



arteries examined, were contracted to one-half their common diameter, with the internal coat in longitudinal wrinkles. The smaller arteries had their internal coat as if it had dried for an hour or so. The veins of the extremities were filled with fluid black blood, and bled freely on cutting for the arteries. The larger arteries contained some black venous looking blood, but the smaller none. The arterial system looked as if there had been no circulation, except in the larger trunks, for some time before death.

CASE XI. *July 30th, 1832—Philadelphia Alms-house—Absence of Vomiting and Purging—Autopsy, fifteen hours after death.*—Manuel Works, an idiotic black inmate, aged forty, while walking in the yard, was seized suddenly with spasms in the legs; this was followed immediately by the state of asphyxia, manifested by cold inelastic skin; corrugated fingers; want of pulse, excepting in one arm, where it was merely perceptible; heavy, slow respiration; cold breath; spasmodic rigidity of muscular system; fixed eye, and sunken countenance. He retained for some time self-possession enough to strike at the assistants, who were officiating about him. Dr. Hodge being in attendance, the treatment he adopted, consisted in uninterrupted mercurial and stimulating frictions, and an injection strong with red pepper. At half after 3 o'clock, P. M. I saw him; the superficial veins were then turgid with blood; we opened two veins in the left arm, one in the right, and the two anterior temporal arteries. From these five orifices, all of which were very free, we obtained not more than four ounces of black blood, which coming out, guttatim quickly coagulated. The arteries bled only a few drops, and the veins seemed to have evacuated not much more than what was previously in them, when, with all our rubbing, only a few drops of blood at a time could be got out. The arterial blood was of the colour of common venous blood. At 7 o'clock of the same day the patient died. From the time this patient came under observation there was neither vomiting nor purging; but the abdominal muscles were tense as usual.

The next day at 10 o'clock, he was examined by Drs. Hodge, Hopkinson, myself and several others.

*Thorax.*—Lungs healthy. *Heart.* Coronary veins turgid. Right auricle and ventricle contained the usual quantity of blood; some of which was in white polypous concretions, the other partially coagulated, and no inconsiderable part of it in the state of serum coloured red, which poured freely out of an incision previously made into the aorta. The arteries of the legs were of their common calibre, and flattened, but contained some black blood. Veins generally filled with blood.



*Abdomen.*—Peritoneum dry. *Liver* sound. Alimentary canal of a pink colour, from the quantity of blood in the sub-serous vessels, and somewhat thicker than usual. The mucous coat of the stomach had a tinge not much inferior to that of red sealing wax, and the summits of its rugæ were black. A lighter tinge of red prevailed in the whole of the valvulæ conniventes and mucous coat of the small intestines, and they, with the stomach, were lined with a bloody, opaque, tenacious mucus. Mucous coat of colon not much altered. There was neither in the stomach nor bowels any of the cream-like or gruel-like fluid common to cholera. But we found in the stomach a handful of undigested aliment, consisting of masticated fragments of green gages, and large pieces of meat. Portions of these articles were found in intervals along the intestinal canal, and some of them had even got down into the transverse colon. The particles of the red pepper injection were found adhering to the mucous coat of the colon in its whole length.

The inferences from this case are, that the patient's attack was brought on by the indigestion of the articles found in the alimentary canal—that the canal was in a state of high irritation, which only wanted time to make it an inflammation pathologically, and produce the corresponding changes of texture—this being proved by the universal vascular turgescence of the mucous membrane of the stomach and bowels, and that the deficiency of the characteristic fluid arose from the attack being so rapid, that there was no time for the secretion of it to occur.

A report prevailed in the city after the death of this patient, that he died from eating a chicken's head; this is a mistake, for none was found in his stomach or bowels on this occasion, although from his want of intelligence, he was in the habit of eating the offal matter found on the grounds of the alms-house, and among many other articles, may from time to time have swallowed a chicken's head, or any other substance.

CASE XII. *Vesicular Eruption on Stomach, Ileum, and Colon.*—Dennis Falkland, æt. 13, a driver on the canal, was admitted into the cholera ward of the Alms-house on the 16th of October, at 4, P. M. He stated that he was attacked about noon the day previous with purging and vomiting, both of which continued up to the time of his admission; cramps of the hands having supervened but a few hours previously.

On admission pulse very small, feeble and quick; extremities cold, with blue nails, and inelasticity of the skin; eyes sunken and haggard, with a livid circle around them; tongue white, moist and cold; thirst intense; no vomiting; bowels opened shortly after admission, stool thin, foetid, and apparently purulent; respiration slow, breath



cold; intellect obtuse, but when roused he conversed rationally; slight cramps of the hands; continual jactitation, and a great indifference to every thing around him, lying generally with his eyes closed, except when addressed in a very loud tone. Frictions with tr. capsicum were immediately resorted to, and grs. v. carb. ammon. were administered every half hour in a julap, with ice and cold drinks.

These produced little or no benefit, and between six and seven, he was placed in a bath of about 100°, (F.) strongly impregnated with salt, where he was allowed to remain half an hour, having at the same time cold applied to the head.

Shortly after being placed in the bath, of the warmth of which he complained very much, he vomited a quart of "rice water fluid," which was nearly inodorous. Frictions with capsicum were again resorted to, together with the application of a large sinapism over the abdomen, and bottles of hot water to the extremities. The sinapism commenced drawing very well, when the nurse, induced by his complaints, took it off. At this time, 8½ o'clock, I saw him first, opened a vein in each arm, and succeeded in drawing about ℥iv. of blood, which coagulated very soon. He was then enveloped in a blanket saturated with hot water; the whole abdomen was covered with a decoction of cantharides in spts. terebinth. Carbon. ammon. grs. v.—opii, gr. ss. in ℥j. of mucilage of Ulm. Amer. were ordered every half hour, and ℥ij. of blood to be drawn every two hours, if practicable.

At 11 o'clock ℥iss. were obtained with great difficulty, and at 1, but ℥j. could be drawn.

The patient continued to sink, and expired about 11, A. M. on the 17th.

*Autopsy, at 4½, P. M. in the presence of the house Physicians and Students in attendance.*—Universal rigour of muscular system, which came on sometime after death. Fifteen minutes immediately subsequent to that event he was still limber, though his eyes had at that time lost some of their fluids, for they yielded very readily to pressure.

*Abdomen.*—Peritoneum very dry. Liver natural. Gall-bladder filled with green bile. Spleen small. Urinary bladder contracted. Kidneys dry, but yielded in small quantity from the tubuli some puruloid fluid.

Small intestines had universally the pink colour of cholera, with here and there loops of a dark red colour from the accumulation of venous blood; contained a large quantity of muco-albuminous matter mixed with a small proportion of serum. The mucous membrane was softened, its veins congested, with here and there patches of ecchymosed blood, some a few lines, and others several inches in diameter.



The light being imperfect, we could not well determine the state of the muciparous glands.

Large intestines externally not so pink-coloured as the small, contracted somewhat. Mucous coat with patches of extravasated blood, and contained a very foetid purulent serum, such as he had discharged by stool.

Stomach not examined at the time, as I retained it for a preparation.

The jejunum, at its upper part, had the albuminous matter tinged with green bile. Lungs sound, not more congested than usual after death. Cavities of heart occupied by very black blood, and coronary vessels much distended with same.

I injected minutely in this case the arteries and veins of the stomach, and of the beginning of the colon, and dried them. The stomach then presented internally, near its pyloric orifice, a cluster of cholera vesicles, about a dozen in number, piled up in a cone, and having a bed of coagulating lymph at the base. Great numbers of the same vesicles were found upon the mucous coat of the ileum and colon, most numerous generally where beds of coagulating lymph existed, but still found in abundance elsewhere, adhering to the septulæ of the follicles.

We propose to continue this subject in the next No. of this Journal, and to illustrate our observations with plates, representing the conditions of the mucous membrane in cholera and in health.

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ART. IV. *Case of Inverted Uterus*. By BURLEIGH SMART, M. D. of Kennebeck, Maine.

FEBRUARY 28th, 1833, Mrs. S. L. æt. 31, was confined this day three weeks with her first child; having been very sick ever since confinement, and no improvement in her symptoms, I was desired to see her.

Her situation had been such, that the catheter was used twice daily; great distress in the vaginal and perineal region, with inability to be raised; she had reclined constantly on her back; great prostration and frequent partial faintings.

Dr. E. the attending physician and accoucheur, says that there is a tumour in the vagina, which he supposes to be an excrescence, or scirrhus or polypus connected with the fundus of the uterus, and which appeared there on removing the placenta; and has been there ever since. He states that the labour was tedious, and the delivery, which was finished with the vectis, was difficult. The attendants say there was great exhaustion and considerable hæmorrhage. She now appears bloodless.



On examination I found the whole vaginal canal filled with a soft compressible tumour, and on carefully searching for the neck of this tumour, expecting to find an incomplete or partial inversion, and remembering what DEWEEES and others had said upon inversion of the uterus, I was disappointed to find that there was no neck to the tumour, nor any os uteri to be found, but a continued smooth surface, uninterrupted in its continuity by any unevenness of surface until it diverged, and was lost in that arched roof of the vagina, which terminates this canal where it surrounds and embraces the neck of the uterus.

During this examination, blood oozed out on the surface of the tumour, forming thin coagulæ, some of which were removed with the hand. The tumour appeared soft and yielding, with apparently but little elasticity, or rather resisting power to compression, for it possessed sufficient elasticity to resume its form when altered by compression. The attending physician stated that it had been much harder, and felt like the head of a child, so hard was it; and for such he at first mistook it.

The pulse at this time was 120, and had been 150. Attempts had been made to carry this tumour up out of the vagina, but every one had been followed by a return of the tumour to the former situation. A small wooden pessary had also been used, but with no advantage.

The tumour being so soft and yielding, induced me to advise another attempt to reduce the inversion, and to prevent a return of it. An instrument, something in the form of a common iron mortar pestle, consisting of a stem, about seven inches long, and one and three-fourths in diameter, terminated at each end with a very flattened oblate spheroid, one of which was rather larger than the other, the larger end being hollowed out superiorly in the form of a concave hemisphere, and covered with cotton cloth, so as to present an elastic concave surface on pressure, into which was received the convex depending portion of the fundus of the uterus in replacing it. The lower end of the instrument came outside the vulva, and was secured in its place by a T-bandage.

*March 2d.*—Found the fundus on removing the instrument still depending, but higher up in the vagina, the reduction not having been completed. The defect was stated to the attending physician, with the advice to pass the instrument above the place of the utero-vaginal junction, and to carefully maintain it there.

*3d.* Found the fundus above the os uteri, with its margin distinctly defined; still the convex surface of the depending fundus could be felt by the finger through the patulous os uteri.

There being considerable local irritation, some chills, and frequent



motions of the bowels, with tenesmus, and pain in the back and bowels, it was not thought adviseable at present to attempt the entire replacement of the fundus. Sig. Tr. opii, and ess. tansey, āā. gtt. xij. Continue the instrument.

4th. Comfortable night; the depending fundus still perceptible to the finger above the os uteri, which now appears contracting. The instrument was now removed, on account of the local irritation it produced, and a sponge pessary was substituted, with a thick compress on the perineum, and the T-bandage.

6th. Restless night; she thinks, (to use her language,) the womb is down again.

An examination proved that she was mistaken. The os uteri just admits the finger; the inverted fundus can still be touched by the end of the finger.

May 16th.—On examination found the os uteri closed; parts in a natural state; still unable to pass the urine, rendering the catheter necessary. Complains of numbness in the left leg and arm; sensation of weakness, and occasionally of faintness at the stomach. Tenderness of the dorsal and lumbar vertebræ. Directed Tr. Strychnin. gtt. 5 bis die, and Tr. Ferri. muriat. gtt. 8 bis die. Ung. antimon. to the spine, over the tender portions.

19th. Feels much better; limbs much stronger; stomach better; some eruption on the back from the ointment. Continue the medicines.

27th. Better every way; appetite improved; walks about, and up and down stairs. Has omitted strychnine on account of growing somewhat nervous. Substitutes decoct. valerian. For pleurodyny, with which she has been troubled, directed anodyne liniment, to be followed with Emp. rob. From this time she continued to improve; soon after she took the Tr. Strychnine she was able to pass her water. There never was any secretion of milk. She at this time enjoys her usual health, having always been of a feeble and delicate constitution, and scrofulous diathesis.

The reporter of this case believes it to be unique in point of time, as no record of a similar case has ever met his eye of an inverted uterus having been reduced after so long a period. And the success of this case he is inclined to attribute to the relaxation and want of contractility in the organ and its neck; for it will be seen by the notes of the case, that it was a number of days after the fundus was returned beyond the neck, before the neck contracted so as to close the mouth.

He feels certain that he did not mistake a partial for a complete inversion, as Dr. Dewees has supposed others have done.



ART. V. *Remarkable Case of Ascites in a Child.* By JOHN A. ELKINTON, M. D. [With a wood-cut.]

JANE M'KINLEY, æt. 4 years, came under my care in November, 1833, with abdominal dropsy. She had been twice tapped before I saw her. I found the patient with an enlarged, tumid abdomen; distinct fluctuation, and considerable uneasiness and distress, particularly when in a recumbent posture. This condition of things continued to increase without any apparent relief from medicines, and the urgency of the symptoms demanding it, I performed the operation of *paracentesis abdominis* for the first time, November 21st, 1833.

After the fluid was removed, a tumour was perceived occupying the epigastric region, which, upon examination, was found to be the left lobe of the liver in a state of induration and enlargement.

Believing the disease to be the result of chronic visceral enlargement, an alterative plan of treatment was instituted, and mercury was cautiously administered. Externally, frictions of ung. hydrarg. alternated with ung. iodin. were fairly tried over the region of the liver. For a long time various means were resorted to, and persevered in without success. Several months having elapsed under these circumstances, and no impression being made on the disease, I embraced every opportunity of exhibiting the patient to my medical friends, with a view of profiting by their suggestions. During this period, while under the influence of medicines adapted to her case, the accumulation of fluid continued, and she was frequently tapped. The necessity for tapping appeared to increase by the distention becoming more and more rapid after each operation. Despairing of curing the disease by medical treatment, I determined on making more accurate observations in future, and to record such particulars of her case as were most interesting. The enormous distention of this young creature, together with a countenance rendered grave and haggard by long suffering, and a mind singularly matured and observant, created in all around her, a respect and sympathy felt for those of riper years. The following details are from my notes of June 30th. "Samuel M'Kinley's daughter, aged four years, I tapped to-day at 3 P. M. Drs. GRISCOM of New York, and JAMES S. CALDWELL of this city, present. The following admeasurements were taken before the operation. From the spine horizontally, over the umbilicus, three feet one inch; from the sternum to the pubis, transverse to the former measurement, two feet; thorax, girth seventeen and one-eighth inches; quantity of fluid removed, twelve pints. Dropsy supervened to an



attack of scarlet fever. The operation of paracentesis abdominis has been performed ten times, averaging eleven pints of fluid each time; whole amount of fluid removed from this little sufferer by tapping is one hundred and ten pints, or thirteen gallons three quarts. At present the liver appears mainly implicated in the disease; it may be felt after tapping, very distinctly, and its external periphery traced out with the fingers, from its prominent position in the epigastric region. It is also indurated, and presents no favourable prospect of cure. The gall-bladder could also be distinctly felt.

“Dr. Griscom recommended the *Apocynum cannabinum*, which had been used, and was again employed with but inconsiderable benefit. All remedies have thus far failed. Tapping is resorted to as a palliative merely, to prolong and alleviate existence.”

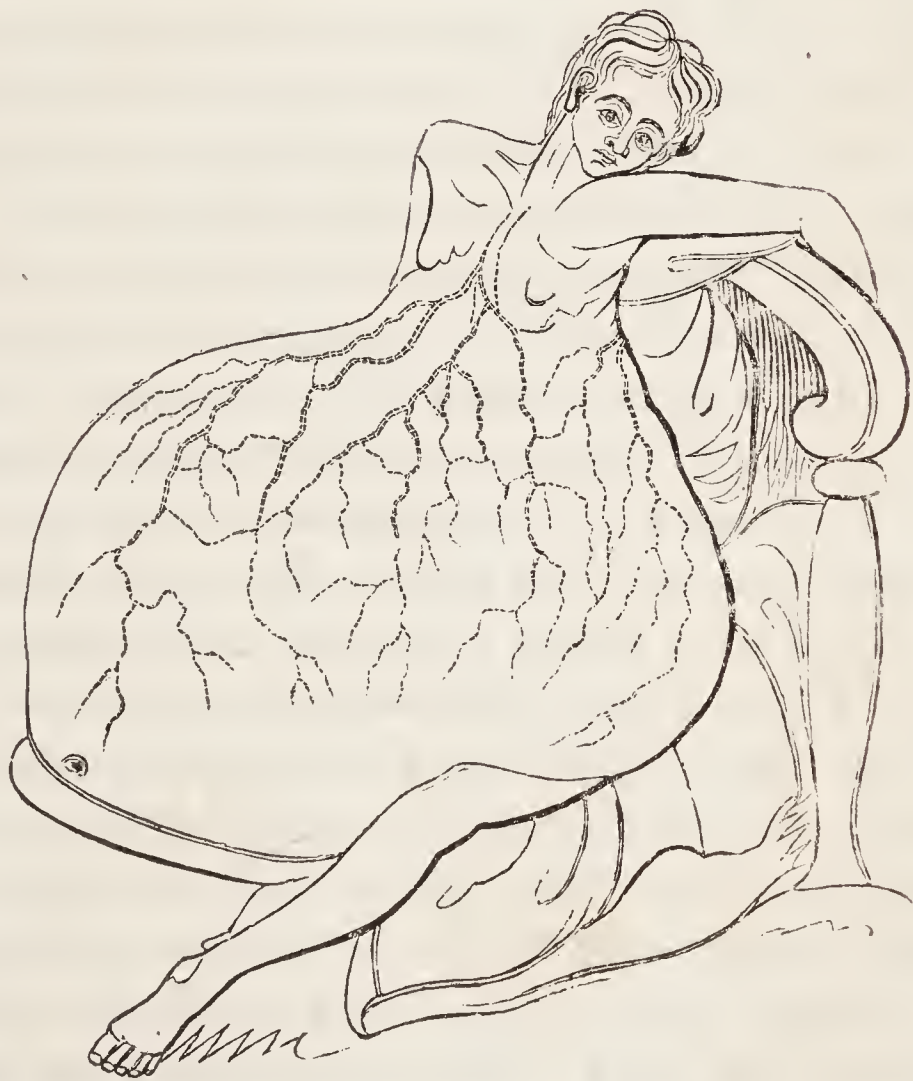
*August 7th.*—The accompanying figure is from a drawing taken to-day by my friend, Mr.

WILLIAM D. CALDWELL.

The patient is represented sitting in a state of nudity, with the arms resting on the end of a settee. The likeness is striking, and scrupulously accurate in its proportions. From pubis to sternum, is 24 inches; from spine over umbilicus, horizontal circumference, 37 inches; thorax circumference,  $17\frac{1}{8}$  inches.

*10th.* Three days after the drawing was taken, I tapped her again. At this operation I removed eighteen pints by measure of fluid.

Heretofore some slight benefit had occasionally been supposed to result from the variety of remedies employed, but now all influence of medicine over the disease was lost. If the distention had been protracted at any former period by the means that were used, no such temporary benefit could now be observed. In proportion to the advancement of disease, the susceptibility to medicines gradually diminished. In less than a month, so great was the accumulation of fluid, that my services were again solicited. Parents and child im-





portuned me daily for another tapping. As usual, I delayed the operation as long as possible. To be continually plunging a trochar into the belly of a child, whose disease admitted of no other mode of relief, was painful in the extreme.

*September 3d.*—Having made arrangements for repeating the operation to-day, my intentions were superceded by the kindly interposition of death coming to her relief.

She died about 3, A. M. twenty-four days subsequent to the last tapping. In this comparatively short period of time, there was a much larger accumulation of fluid and corresponding distention of the abdomen, than had been manifested at any previous operation. An incision was made into the cavity of the belly, and twenty and a half pints of fluid withdrawn; making thirty-eight and a half pints since the 31st June, a little more than two months. The aggregate amount of fluid deposited as above, and removed by tapping, is *one hundred and eighty-four and a half pints*, or more than *eighteen and a half gallons* in a child a little over four years of age.

It is curious to contemplate how existence could be maintained so long, with such an immense drain from the system: it is also remarkable the immense weight and distention which the integuments under such circumstances are capable of sustaining.

In this patient there was sallowness of complexion, with emaciation, but no œdema of the extremities or face. All the fluids of the body seemed to be determined to the peritoneum, and through that tissue pour out their serum. The enlarged veins over the abdomen, distended with blood, presented a deep blue or black appearance; and were very conspicuous before tapping, as is shown in the drawing. This blood appeared in a half stagnant condition in the superficial vessels, and quiescent, unless influenced or impelled by gravitation or force, when it moved along like passing through inanimate tubes. Owing to the prejudices of the family, we were prevented making a satisfactory autopsy. As time was limited, the liver was removed for subsequent inspection, and with the assistance of my friend, Dr. WILLIAM ASHMEAD, we discovered the following appearances in that organ.

*Condition of the Liver.*—In the substance of the liver was found a large quantity of concrete bile, blocking up the hepatic ducts in every direction. More than 3xij. of this peculiar substance were obtained in the course of the examination. On opening the ductus communis in the transverse fissure of the liver, it was found distended to the size of a quill, with inspissated bile of a very dark brown colour, and as firm as wax; this inspissated bile blocked up and distended all the ducts of the right lobe,



nearly to the size of a quill, but mostly diminishing in diameter near the surface of the liver: in places there was some fluid bile of an orange colour, mixed with the concrete. One duct especially, which lay very near the surface, along the longitudinal sulcus, was distended much larger. Those of the left lobe generally contained thick fluid bile, but few of them had much of the concrete. The mucous coat of the distended hepatic ducts was softened, spongoid and injected.

This condition of the liver will explain the difficulty of managing the case, and the inefficiency of medicines in the latter stage of the disease. The functional derangement of this organ alone is sufficient to account for all the phenomena detailed.

The following accurate description of the autopsy has been politely furnished by my friend, EDWARD HALLOWELL, M. D.

*Autopsy, performed ten hours after death.*—Abdomen greatly distended; the superficial veins much enlarged, and the integuments slightly discoloured; emaciation very considerable; twenty and a half pints of a straw-coloured fluid were removed from the abdominal cavity; it did not coagulate on the application of heat, but contained a large quantity of a tremulous jelly-like substance, occurring in separate masses, about the size of a small orange, but of irregular form. The abdominal parietes were of considerable thickness, and notwithstanding the general emaciation of the patient, contained a considerable quantity of fat. The peritoneum was perfectly white, somewhat thickened, and exhibited a slightly granular appearance. The surface of the intestines was of the same colour, such as they might be supposed to present after frequent washings. The liver was found adherent to the diaphragm and the lesser curvature of the stomach; it was exteriorly of a greenish-brown colour, and presented several inequalities on its convex surface. It was hard to the touch, but did not appear to be much enlarged; its *texture* was very firm; the acini was strongly developed, and the cellular tissue surrounding them was of a yellow colour. An incision was made into the hepatic duct, which was much distended, and filled with a dark orange-coloured substance, of the consistence of wax, which appeared to extend throughout its ramifications. It was laid aside for future inspection. The stomach contained a considerable quantity of fluid ingesta. Its mucous membrane was pale throughout, but appeared to possess a good consistence. The intestines were examined hurriedly, but presented nothing remarkable. No obliteration was observed in the ductus communis choledicus. The lungs and brain were not examined, in consequence of the necessity of performing the autopsy as speedily as possible, the parents of the child being extremely averse to it.



ART. VI. *Case of Monstrosity, with some Remarks upon Moles, Marks, &c.* By STEPHEN W. WILLIAMS, M. D., Late Professor of Medical Jurisprudence in the Berkshire Medical Institution.

ON the 5th of February, 1834, I delivered Mrs. L. H. of a deformed child, at about the seventh month of gestation. She was upwards of forty years of age; and had heretofore borne six healthy children. For several years she had been troubled with severe menorrhagic affections, and much of the time with leucorrhœa, which affected her nervous system very much. She has, likewise, been troubled with dyspepsia, and general numbness. Early in the month of the previous September, not feeling very well, she left her house, to visit one of the neighbour's about ten rods off, which was the last circumstance she recollected, till she found herself in her bed in her own house. After leaving home, she wandered into an orchard, twelve or fifteen rods distant, where she fell. How long she remained on the ground cannot be ascertained. She was found by her husband and son in a state of insensibility, and conveyed into the house. I was immediately sent for, and found her recovering her sensibility, and wondering how she came where she was. She was very pale, faint, and numb; complained of slight pain in her head and back; was very cold; and her pulse scarcely perceptible. I directed stimulants and frictions to produce reâction, and warmth. It was several hours before her pulse rose sufficiently to bear blood-letting, and when I resorted to that measure, it was with some hesitation and doubt. She bore but a small bleeding before she became faint, and we were under the necessity of conveying her to bed. She continued languid and numb several days, when she was restored to a tolerable comfortable state of health. At the time I bled her, she told me that her menstrual discharges had been suppressed about two months. I gave it as my opinion, that she was in a state of pregnancy, at which she was much surprised. For several of the last weeks previous to her delivery, she was very unwell, complaining of numbness, heartburn, and sickness at the stomach; not, however, to so great a degree as to ask medical advice. For a few weeks past she felt feeble, and rather indistinct motions of the fœtus, much lower in the uterus than usual, and she complained of great weight in the womb.

On the morning of the 5th of February, she was attacked with labour pains, which continued through the day, but she had no idea that she was going to be confined. She sent for me in the evening, hoping that I should be able to do something to arrest her pains. I



immediately perceived that she was in labour, and sent for assistants, and very soon delivered her. The presentation was of the right ear, but I soon regulated it, and brought the child into the world in the natural way. The head and body of the child was not enveloped in its usual membranes and water. The following description, with the plate, will give a correct idea of the production.

The head, neck, arms, and thorax were natural, except that the right side of the thorax was larger than the left. This part of the body was covered with patches of dry mould. The head were covered with long black hair. All of her children had remarkably long hair at the time of birth. From the thorax, the appearance was that of a complete monstrosity. The anterior parietes of the abdomen were deficient, and the unorganized bowels were protruded in a confused mass, somewhat resembling the placenta. The liver was large and natural, and partially protruded from the abdomen. I discovered but one kidney, which was large and out of place. At the lower part of the abdomen there was a large sac, filled with yellowish coloured water. On the back, which was covered with true skin, directly over the lumbar vertebræ, was a large encysted tumour, which contained in a thin sac, more than half a pint of thin yellowish water, constituting a genuine spina bifida, the opening into which from the spine, was large enough to admit the blunt end of a probe. The bones of the spine were as solid as those of any foetus at that age. The spine itself was somewhat incurvated. The anus was imperforate. No indications whereby we might be able to distinguish the sex, were apparent. Two wart-like excrescences were seen where the scrotum or labii pudendi should be, but nothing definite could be determined from them. The legs were shrivelled, and feet remarkably clubbed. The child gasped two or three times after delivery.



The investigation of the subject of monsters leads to a physiological question, which is as yet unsettled, viz. does the imagination of the mother affect the foetus in utero? The doctrine of *Nævi Materni*, or marks from the imagination of the mother, was universally believed,



from the most ancient times almost to the present. In fact, many, very many practitioners, of the present day, believe it as firmly as they believe any medical fact.

Although cases like the following are frequently occurring in the practice of physicians, yet I will relate a few which I have noticed in my practice, and then make a few passing remarks upon them. A woman, in the sixth month of pregnancy, in reaching from a chair to hang a cloth upon a pole over head, fell, and lacerated her knee. The wound was several days in healing. When her child was born, the limb was flexed, the joint was stiff, and there was a scar on the knee precisely resembling that on the mother's. By constant friction and bandaging, for some time, the limb became flexible, and it is now as useful as the other. The sister of a woman in pregnancy had a young child with a clubbed foot. The pregnant sister frequently saw this child, and it was almost constantly in her mind. When her own child was born the foot was clubbed exactly in the same manner. Two other cases, under precisely similar circumstances, have recently occurred in my practice. Four idiot children, in four different families, in our little neighbourhood, have been born within a few years, and in each of these cases the mothers have imputed the misfortune to frights from seeing these unfortunate objects during their pregnancy.\* A woman in the sixth month of gestation was violently frightened by a cow with a young calf, running furiously at her. She had scarcely time to save herself from being seriously injured by running into a house. She immediately fainted and fell. She remained very unwell till the commencement of the ninth month of pregnancy, when, with the utmost difficulty imaginable, she was delivered of a monster. Fortunately it was dead. Many other similar cases have occurred to my observation.

But these cases are entirely different from those in which the imagination alone of the mother, in what are called longings, produce. My opinion is, that in no possible instance can the *longings* of the mother, for any particular article or thing, let her have ever so much a desire for it, and not be gratified in it, can have any effect towards marking the child. Nothing is more common than the belief that the longings of a pregnant woman must be gratified, and if they are not gratified, the child will bear some marks or resemblances upon its body of the thing longed for. Most modern writers agree, that the foetus in utero cannot be marked by any

\* Our correspondent cannot certainly consider the *opinion* of the mothers, in these cases, as evidence of the slightest weight, or as in any degree tending to settle the question in dispute.—EDITOR.



depraved appetite of the mother. I have seen many *nævi materni*, but I must confess I have never seen a case which bore the least resemblance to the thing said to have been longed for. A mark is found upon a child at birth, or sometime after. The woman then recollects that she longed for something, and brings herself and nurses to believe that the mark upon the child exactly resembles the thing she wished for. Cherries, plums, strawberries, and other fruit, are the articles generally longed for, and the marks are most frequently of the colour, and about the size of these kind of fruit. Sometimes the marks are much larger than these fruits, the woman then longed for something else.

In relation to this subject, I communicated the case of a monster from the fright occasioned by the cow, to the late Dr. RUSH, of Philadelphia, and asked his opinion in regard to marks. He replied, that he had no doubt that the fright might have produced the change in the child which was noticed, and that serious frights might produce many of those appearances in infants which have been mentioned by writers on the subject. But in relation to longings he mentioned the fact, that the late Dr. M'AULEY, of London, used to make it a practice to ask all the women whom he delivered, before they saw their children, whether, during pregnancy, they had ever longed for any thing, and if they had, what it was they longed for. In above three thousand instances he never saw the least resemblance between the mark and the thing longed for. These facts are sufficient to set at rest all doubts upon the subject.

*Deerfield, Mass. January 1st, 1835.*

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ART. VII. *A Case of Fractured Spine, with Depression of the Spinous Process, and the Operation for its Removal.* By DAVID L. ROGERS, M. D. of New York city. (Communicated by S. R. KIRBY, M. D.)

THIS case occurred on the 3d of February, 1834, in the person of a Mr. Little, aged thirty-one years, who fell from the roof of a three story house, (as is supposed,) upon a coal box, which fractured the spinous process of the first lumbar vertebræ, and depressed this process upon the spinal cord; a space was distinctly felt between the last dorsal and second lumbar vertebra. He presented those symptoms, paralysis and suffering, which are familiar to surgeons in such cases.



After reäction was fully established, the paralysis of the lower extremities continuing, with other distressing symptoms, it was determined to remove the depressed process.

*Operation.*—The patient was laid upon a cot, and placed on his side, as symptoms of suffocation were produced when lying on the face. The shoulders and hips were carried forward, which caused a projection of the spine; an incision of about five inches in length was made, in the direction of the spine; several fragments of bone, broken from the spinous process of the last dorsal vertebræ, presented, these were removed. From the comminuted state of the depressed process, it was thought that it could be removed without the saw, and in elevating it, every part was detached except at the oblique processes. An attempt was made to separate these with the knife alone, but without success; Hey's saw of small size was now employed, but the mobility of the part rendered this a tedious and difficult part of the operation, the irregular edges of the bone occasionally coming in contact with the spinal cord, caused excruciating pain, accompanied with convulsive contractions of the muscles of the back; with the aid of the double hook and elevator it was fixed, and by gently sawing, it was separated on one side, but could not by this mode be detached from the other side. Again the knife was used, and the capsular ligament was divided from the outside; the process was then drawn upwards and outwards, so that the probe pointed bistoury might pass between the articulating surfaces, which completely separated its attachments. About two inches of the spinal cord was now exposed, covered with coagulated blood, quite firm; this was removed with the forceps. The spinal cord did not seem to be injured. The wound was drawn together by a suture, and adhesive strips, with a bandage. The patient was laid upon a firm matrass, on his back. In about fifteen minutes after the operation, he said he was much relieved; sensibility returned to the lower extremities; respiration became easy, and with the assistance of an anodyne, he slept for several hours.

The above operation was performed on the morning of the 5th of February, 1834. At 8, P. M. of the same day, he complained for the first time of pain in his feet, and a difficulty in passing his urine. A catheter was introduced, and about a quart of urine discharged. Gave him lemonade and gum Arabic water for the night.

*February 6th, morning.*—Has rested well during the night; complains much of pain in his feet, they are highly inflamed and vesicated, twelve leeches applied to them; skin dry. Pulse 106. Ordered spirit minderer. 7 o'clock, P. M. Pulse much excited; skin dry;



complains of pain in the wound; turned him on his side, which gave much relief; was directed to take at bed time, proto-chloride hydrarg. grs. vi.; Pulv. ipecac. compos. grs. x. M. The lemonade omitted for the night. Warm fomentations to the feet.

*7th, morning.*—Rested well a part of the night; complains of pressure about the wound. Pulse 100, and tense. Bladder much distended with urine. Bled him ten ounces, when he became faint. 7, P. M. Was much relieved by the bleeding; slept several hours during the day; urine drawn off twice to-day. Ordered pulv. ipecac. comp. grs. x. at bed time.

*8th, morning.*—Vomited during the night, which caused much distress in the wound; no discharge having taken place from the bowels since the operation, notwithstanding several injections had been given, he was directed to take Ol. ricini, ℥j.; Tinct. opii, gtt. xx. and effervescing draught. 7, P. M. Cathartic has not operated.

*9th, morning.*—The cathartic has operated several times during the night; says he is free from pain. Pulse 98, and soft. The wound in the back dressed, has in part closed; granulations seem healthy.

*10th, morning.*—By the aid of anodynes he rested well for the night; skin moist; pulse 98; the right foot had lost its sensation, much tumefied; crepitation was felt on the ankle, resembling emphysema. Dr. R. being satisfied that gangrene had commenced in the foot, he immediately made an incision in the part from below the inner ankle to the great toe, down through the distended cellular tissue. The whole of the foot was gangrenous, extending above the ankle. The nitric acid lotion was applied with lint, and the part covered with a poultice. He was directed to take gum opii, gr. ss. and carb. ammonia, grs. ij. every two hours.

*11th, morning.*—Delirium; refused his medicine; gangrene extended; made deep scarifications into the sound parts; continued the same dressings as yesterday. Directed arrow-root, with wine and porter.

*12th, morning.*—Is more composed this morning; slept several hours during the night; took his medicine regularly. The soft parts about the foot have separated from the bones, most of which are in a state of comminuted fracture.

*13th, morning.*—Delirium returned; extremities cold; pulse hardly perceptible at the wrist. Died in the afternoon.

*Post mortem examination, twelve hours after death.*—Viscera of the abdomen healthy; the membranes surrounding the viscera had a dark appearance from extravasated blood. The wound on the back was about half closed by healthy granulations. The bones of the spine retained their relative situation. The first lumbar vertebra,



from which the spinous process had been removed, was fractured through its body, but no displacement. The spinal cord seemed in a healthy condition.

Dr. Rogers makes the following remarks:—Although in all the cases of depression of the spinous processes in which an operation has been performed have proved fatal, yet he is well satisfied that this case presents a strong argument in favour of repeating the operation under similar circumstances. The immediate return of sensation to the inferior extremities after the removal of the bone, with complete relief from all symptoms which indicate an injury of the spine, from the time of the operation to his death, form presumptive evidence in favour of his ultimate recovery, had it not been for the injury and gangrene of the foot. Dr. R. thinks that in a case of simple fracture and depression of the spinous process, without any injury of the spinal cord, we have a reasonable prospect of success in an operation; at all events, it is the only chance for the patient, and under such circumstances he recommends it.

*New York city, March 24th, 1835.*

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ART. VIII. *Cases of Pericarditis and Hydrops Pericardii*. By C. W. PENNOCK, M. D.

THE characteristic symptoms of pericarditis have, until very recently, been considered so obscure that LAENNEC, in speaking of the disease, says, “that he has sometimes suspected its existence previous to death, but, that in the present state of the science, it is impossible to establish its diagnosis.” The researches of M. LOUIS have, however, dissipated much of the uncertainty which formerly attended this affection, and by means of the physical signs and rational symptoms which that eminent pathologist has presented us, we are enabled to diagnosticate its existence with great confidence. M. Louis, in his pathological observations, published in 1826, reports several cases of pericarditis, from which, and the analysis of thirty-six other cases, by MORGAGNI, CORVISART, MM. ANDRAL, BERTIN, TACHERON, as well as those met with in the French Medical Journals, he draws the following conclusions, viz. “That the symptoms characteristic of pericarditis are, a *sudden* pain in the præcordial region, varying in intensity, accompanied by oppression and palpitations of greater or less force; an irregular and intermit-



tent pulse; followed by an obscure or entirely flat sound upon percussion of the præcordial region, which obscurity and flatness corresponds with the shape of the pericardium, whilst the rest of the thoracic cavity yields a clear sound. The præcordial region, under these circumstances, becomes prominent, and an evident projection is visible, in which space no respiratory sound exists. Whenever, says M. Louis, this assemblage of symptoms is observed in a person who had *previously enjoyed good health*, the existence of pericarditis may be considered as established. Should there be an absence of pain, and if the other circumstances previously mentioned exist, the diagnosis cannot be uncertain; for the only question then will be, whether the disease be a pericarditis or a hydrops pericardii, and the latter disease develops itself much less rapidly than the first.\*

In the following case, availing ourselves of the above indices, the disease was immediately diagnosticated, the certainty of which was verified by the subsequent autopsy.

On the 28th of December, 1834, I visited Joseph Drummond, an out-door patient of the Philadelphia Dispensary. He is a boy of eleven years of age, of medium size, without much muscular development, light hair, gray eyes.

He uniformly enjoyed good health until four years ago, when he was attacked with measles, which were attended with cough, pain, and other symptoms of an acute thoracic affection. Since that time his constitution has been delicate, and during last summer and autumn he was subject, for short periods, to palpitations of the heart, but has not been obliged to remain in bed. About the 20th of the present month these palpitations became more violent than usual, and were much increased by motion, especially when he attempted to go up stairs. In walking, his movements seemed constrained and difficult, and his mother has often remarked a peculiar palor of the cheeks and blueness of the lips. At night he has been obliged to have his head and shoulders supported by pillows, so as to be raised eight or ten inches above the level of the rest of the body.

During the night of the 26th and 27th the difficulty of breathing became so great as to prevent sleep.

When I first saw him he presented the following symptoms:—Countenance expresses much anxiety; cheeks and lips pale; *alæ nasi* dilated by inspiration; complains of beating of the heart, but has no

\* Louis' *Recherches Anatomico-Pathologique sur divers maladies*. Art. *Mémoire sur la Péricardite*.



acute pain; sits up in the chair; objects to lying in the bed, as he experiences, when in a recumbent posture, an increased difficulty of breathing; has a slight tickling dry cough; respiration oppressed, 40 per minute; pure over the entire extent of the right side of the chest and on the left side; under the clavicle, for the space of an inch and a half, it is also pure; posteriorly, on the left side, it is attended with a sibilant rhochus; in front, below the fourth rib, respiration indistinct; the impulse of the heart extremely strong, and attended by a slight bellows sound, which is heard plainest two inches to the left of the sternum, and one inch below the nipple. Skin hot and dry; pulse 120, regular, hard; abdomen relaxed; no pain upon pressure of the epigastrium; respiration oppressed when pressure is made upon the ensiform cartilage; no tympanitis; anorexia; thirst; tongue slightly covered with a whitish fur, but moist; no head-ache; intelligence perfect. R. An enema of senna and sulph. magnesia. Cups over the anterior part of the left chest. Take a tea-spoonful four times a day, of the following mixture, viz. Tinct. digitalis, ʒss.; Syrup simplicis, ʒiiss. Drink, an infusion of flaxseed. Diet, oatmeal gruel.

*December 29th.*—Six ounces of blood were obtained by the cups, after which a tendency to syncope taking place, the operation was discontinued.

The bowels were opened by the injection; patient had some sleep; the dyspnœa much relieved; pulse softer, regular, 110 per minute; skin more relaxed; thirst less. Respiration improved; the action of the heart less violent; motion causes less inconvenience.

His treatment, from the 30th of December, 1834, to the 6th of January, 1835, consisted in the exhibition of five drops of digitalis in syrup, four times a day. Solution of sulph. morph. at night; the infusion of flaxseed, with spts. nit. dulc. and lemon juice, for his habitual drink, and an occasional dose of ol. ricini. In this period he was once purged with the infusion of senna and sulph. magnesia. Diet, the farinaceous articles.

*January 6th.*—His countenance, in the early part of the day, was unusually pale; lips of a blue appearance; hands and face cold, but had no decided chill. About noon he was suddenly seized with an agonizing pain over the region of the heart, extending, when forcible inspiration was attempted, to the left shoulder. He was obliged to sit up during the night, which was passed without sleep, in great pain and restlessness. The pain in the præcordial region is intense; thirst; hot skin; tongue dry and clean; feebleness; cough, without expectoration; obliged to sit upright in bed; respiration quick, hur-



ried, 65 per minute; pulse 140, regular, quick, and hard. Impulse of the heart much increased, producing a pulsatile motion, very perceptible to the eye, in a space of the size of a dollar, an inch below the left nipple. Bellows sound heard generally over the left side of the thorax, especially where the pulsatile motion is perceived.

Percussion, in all parts of the thorax, yields a clear sound, with normal respiration, except over the præcordial region, where it sounds dull, with feeble respiration.

He was ordered to be cupped freely over the left side. This was done in the morning, but, owing to the symptoms of syncope coming on, not more than four to five ounces of blood were abstracted. This cupping produced momentary ease, but the pain and dyspnœa increasing towards evening, twenty leeches were directed to be applied over the region of the heart. The leeches drew well; a blister 4×6 inches was afterwards applied to the right chest, and the patient was placed on the use of the following prescription:—R. Solut. sulph. morph.  $\bar{z}$ j.; Tr. digitalis, gtts. xv.; Acetat. scillæ,  $\bar{z}$ j. M. A tea-spoonful every three hours. A pill of grs.  $1\frac{1}{4}$  extr. cicutæ three times a day.

On the morning of the 8th his respiration was better; pain much diminished; cough abated; pulse 130; skin moist; no thirst. The blister had drawn well; countenance cheerful; says he feels much better; urinates freely; one alvine dejection; œdema of the ankles is observed. A plaster of the extr. cicutæ was directed on the back, and the vesicated surfaces to be dressed with an ointment containing sulph. morph. grs. ij.; Adeps,  $\bar{z}$ j. M. Diet, decoction of Iceland moss.

10th. He has had disturbed sleep, but is still obliged to preserve the upright posture, with his head resting on a chair, and pillow placed in front of him. Œdema of ankles considerable; face and hands also swelled; lips pale; tongue moist and clean; pulse compressible, small, 120 per minute; no pain, but the feeling of oppression is increased; says he feels as though he would smother when he attempts to lie down. The left chest is more distended than the right; the præcordial region prominent.

Percussion of the left side anteriorly, from the third to the fifth rib, yields an obscure sound; below it is entirely flat; this obscurity and flatness extends laterally from the right border of the sternum to a vertical line drawn through the anterior third of the left arm pit, intersecting the ascending part of the lower ribs. In this space no respiration exists. Percussion sonorous, and respiration normal, in the entire extent of the left chest, with the exception of the region just indicated; the impulse of the heart is diminished in force; the



bellows sound continues, but there is no noise resembling that of the crackling of leather, or of that of rubbing of different substances.

On the 10th he was ordered calomel, grs. iij.; Pulv. ipecac. grs. vj.; Divid. in pulv. xij. One every three hours. The dyspnœa diminished rapidly; the œdema disappeared after the 12th, and on the night of the 13th he slept well, with his head but slightly elevated above the usual level.

On the 14th, attracted by some soldiers passing the house, he left his bed, which was in a small room, heated by a stove to a high temperature, and with but little clothing upon him, remained for a long time exposed to the cold and dampness at the street door. During the remainder of the day he was observed to be languid; the blueness of the lips and palor of the cheeks very marked; face and hands cold, but no decided chill. This state was succeeded by a renewal of the previous distressing symptoms, aggravated by an acute pain in the posterior and lower part of the left lung. Cupping, behind and in front of the left side of the chest, was again resorted to, and some relief was afforded by the abstraction of six ounces of blood. The solution of sulph. morph. was found useful in allaying the pain, and in procuring sleep. Tincture of digitalis was given in doses of ten drops four times a day.

18th. The patient experiencing an increased sense of oppression, was again cupped last night, and lost  $\bar{\text{z}}$ iv. of blood. The palpitations have again very much subsided; the pain in the back of the chest has also diminished; percussion of the chest shows, that the obscurity of sound is greater than it was on the 10th instant, and that it covers a greater space; entire flatness is now observed beneath the third rib, and extends an inch to the right of the sternum. Posteriorly, on the left side of the thorax, percussion yields a flat sound from the base of the lung to the seventh rib. Respiration, in this extent scarcely audible; sharpness of voice, approaching ægophony, between the seventh and eighth rib. The blister was renewed to the left breast.

On the 20th, calomel, grs.  $\frac{1}{4}$ , and pulv. scilla, grs.  $\frac{3}{4}$ , every three hours, were administered. The patient was considered convalescent after the 5th of February. The palpitations had ceased; he rested well in a recumbent posture; no œdema; no cough; appetite had returned; alvine evacuations natural.

The flatness of sound on percussion remained in the front of the chest, and the impulse of the heart was forcible, with loud sound; these were attributed to the adhesion of the false membrane formed on the pericardium. The boy was running about for a week, and appeared quite well.



On the 23d of February I was again called to see J. Drummond; found him labouring under great difficulty of breathing, obliged to sit up in bed. His mother stated, that the relapse had taken place two days previous, since which time he had been subject to periodical exacerbations of dyspnœa, it being much worse in the latter part of the day and during the night. Pulse frequent, 150 to 160; skin warm; some œdema of the face; difficulty in urinating. R. Blister to the chest; tr. digitalis, flaxseed tea, and spts. nit. dulc.

*February 24th.*—Blister drew well and discharged abundantly; difficulty of breathing less; is able to lie down; slept little during the night.

*25th.* Attack came on later last evening, but the difficulty of breathing continues; pulse as before; skin hot; respiration very frequent. Percussion in præcordial region, obscure or flat over as great an extent as heretofore. Flatness on percussion of the right side anteriorly extends as high as the mamma; both hypochondria distended; false ribs very prominent; pain on inferior part of the right chest; epigastric region hard, does not give way under pressure. R. Cups to the right side of the chest.; Solut. nit. potas. grs. v.; Aquæ  $\zeta$ j. every four hours. Discontinue the digitalis.

*27th. Present state.*—Respiration 54; pulse 138; (after coughing respiration was 70;) skin cool, soft, without moisture, except very slight on the forehead; no pain in the head; intelligence perfect; no tinnitus aurium; sight unimpaired. Usual position raised, (45° with the bed,) obliged to sit upright at night; coloration of the face natural; slight œdema of the cheeks; alæ nasi dilated in inspiration; lips and tongue pale; the last is moist and covered with slight white fur; emaciation considerable; flesh rather soft; no pain in either arm; no starting in sleep, but sometimes awakes in fright, calling upon his brothers to lay off his breast; cough frequent, especially at night; expectoration white and frothy; no difficulty in swallowing; scarcely any appetite; no pain at present. Last night had acute pain in front of the right side, which abated after he lost four to five ounces of blood by cups. Abdomen soft; some pain upon pressure of epigastrium; no tympanitis; no fluctuation of fluids in the abdomen; no œdema of the legs.

The liver, as indicated by flatness upon percussion, and hardness of feeling, extends one inch below the edge of the base of the ribs.

Thorax distended, bulging at the false ribs on both sides; chest otherwise well formed, except about the nipple, and for the space of two inches below, where there is an evident prominence.

Percussion of the anterior part of the left chest, (on a line drawn



perpendicularly through the nipple from the clavicle to the ribs,) is obscure for one and a half inches below the clavicle; below this it is flat. Obscurity passes the median line of the body to the right for the space of half an inch opposite the second rib, and becomes flat below. Flatness and obscurity on the left extends obliquely downwards from the junction of the second rib with the sternum to a vertical line drawn through the middle and upper part of the hollow of the arm pit. On the right side percussion is sonorous to the nipple, below which it is flat.

Respiration on the left side is natural and tolerably strong in the first half inch below the clavicle; very feeble where percussion is obscure, and none below. On the right side anteriorly respiration is heard throughout, but is extremely feeble in the inferior third. Percussion on the left side posteriorly yields a flat sound in the space of two and a half or three inches from the base. The percussion of the upper part is sonorous; the same state exists on the right side.

*Heart.*—Impulsion strong in the præcordial region, where is felt a strong thrilling sensation: in this space the bellows sound is strongly marked, but it is not heard beyond. The sound of the heart is very audible on the right side posteriorly.

The symptoms, from the 2d to the 4th of March, became more and more alarming; the oppression and difficulty of breathing increased each day, and at night the patient was threatened with suffocation; his intelligence, however, remained unimpaired, and finally, at the moment when he asked for some water, he expired in the arms of his mother.

*Autopsy, thirty hours after death, on the 6th of March. Present Drs. Ashmead, Gerhard and Stewardson.*—Emaciation moderate; features natural; slight infiltration of ankles; upper limbs moderately stiffened; coloration of skin natural; percussion of chest same as before death; abdomen not distended; false ribs and cartilages projecting.

*Chest.*—Pericardium adherent to the walls of the chest anteriorly, in the whole extent: when the sternum and cartilages of the ribs were removed, the pericardium alone was seen; the anterior edge of the right lung coinciding with the line of junction of the cartilages with the ribs; the left coinciding with the same line on the left side, as far as between the third and fourth ribs, and from thence the edge passed downwards and backwards to a point formed by the junction of a vertical line from the middle of the arm pit to the lower edge of the fifth rib; the space intermediate to these lines occupied by the pericardium. Left lung adherent strongly to the walls of the chest in the lower two-thirds, by means of a false membrane, firm, of a yellowish



white colour. When the lung was cut into, there flowed from it a large quantity of a yellowish-white frothy serum; tissue of the upper lobe yielding and crepitant, of the usual reddish colour, and floating in water. Lower lobe inferiorly, solid, firm; when cut, presenting a smooth fleshy appearance, not evidently granulated, or very slightly so, of a reddish-brown colour, not softened, and sinking in water. Bronchial tubes filled with the same frothy serum, of the usual pale colour, not thickened; smaller ones semi-transparent. No tubercles. Right lung not adherent; pleura natural, containing a pint of yellowish serum in its cavity; tissue of the lung generally healthy; same frothy serum as at the left, but in much smaller quantity; inferior two-thirds of the lower lobe solidified, and presenting the same character as the left. Bronchial tubes same as the left. A small cretaceous mass, about the size of a pea, found in the middle lobe, near the surface of the pleura, enclosed in a cyst, the walls of which were very thin. Bronchial glands healthy, not tuberculous. Pericardium adherent to the heart in the whole extent, by means of a firm, false membrane, varying from one-tenth to one-fourth of an inch in thickness, which is thickest near the base of the heart, thinnest near the apex; false membrane organized, separable but with difficulty from the surface of the heart; when cut into the thickest parts, red points are seen, whilst it is of a yellowish white colour in the other parts, generally very firm, but near the base of the heart it is mixed with a gelatinous substance. Cavity of the left ventricle of the natural size; surface polished, of the usual colour; walls four-tenths of an inch in thickness, firm, rather deep coloured. The cavity of this ventricle contained a small quantity of black coagulated blood, and a small fibrinous concretion, which extended for several inches along the aorta. Aortic valves supple, slightly opaque, presenting on their external surface a lymph-like exudation, about a line in width, extending along the whole breadth of each valve, a little below, and parallel with each semilunar edge. Aorta presenting its usual pale yellow, polished, smooth aspect. Its diameter at the origin two inches and three-tenths. Walls of right ventricle varying in thickness from one twelfth to one-eighth of an inch. Cavity not enlarged, presenting a healthy appearance; valves of pulmonary artery supple, pale, semi-transparent; artery itself healthy. Diameter at its origin two-inches and nine-tenths. Diameter of the right auriculo-ventricular opening four inches. Auricles of the usual size, and healthy. Heart from the apex to the base six inches across, in the widest part four and a half inches.

*Abdomen.*—Peritoneum healthy, no fluid in the cavity; intestines



not distended with gas. Liver enlarged, extending on the right side from the fourth rib to the lower margin of the false ribs; the inferior edge following the course of a line drawn from thence to the junction of the seventh rib of the left side, with its cartilage, a little beyond which it terminated, so that it occupied the right hypochondrium, the entire epigastric and part of left hypochondrium. Its tissue firm, and of a dark red colour, very moist; red substance much more abundant. Transverse diameter nine inches; thickness two and a half inches; height six inches. Spleen rather large, four inches in length, two inches in thickness, firm, of a dark purplish colour. Stomach of moderate size, containing thick mucus, not distended; mucous membrane throughout perfectly healthy, of a yellowish white colour, surface like velvet, of natural thickness, and not softened, giving strips of usual length in the different parts. Small intestines of moderate volume, containing a small quantity of a thin yellow fluid; mucous membrane natural in colour, thickness and consistence where examined. Brunner's glands very numerous in duodenum at its upper part, smaller than a small pin's head; in the lower part of ileum they were also found developed, larger than in duodenum, but more scattered. Glands of Peyer healthy. Large intestine of moderate size, containing soft greenish fæces. Mucous membrane near the ileo-cæcal valve, (only part examined,) natural. A few lumbrici were found in the small intestines, which were likewise only partially examined. Kidneys natural. Bladder a little distended, natural; mucous membrane pale. Œsophagus natural; mucous membrane semi-transparent, of a reddish colour, and folded into longitudinal rugæ. Brain not examined.

*Remarks.*—It would be difficult to find a case of pericarditis more marked in its characters than the preceding. Commencing with palpitation, intense pain over the præcordial region, followed by dyspnœa; these symptoms were soon succeeded by obscurity and flatness upon percussion, and absence of respiration in a portion of the thorax, corresponding with the pear-like shape of the pericardium, whilst at the same time a projection of the ribs of the left side was observed. At the same time that those phenomena were observed in the præcordial region, respiration and percussion were natural in other parts of the thorax.

All the symptoms coïncided with those given by M. LOUIS, as characteristic of pericarditis, with the exception of the regularity of the pulse. A case in which the pulse was regular is also reported by M. ANDRAL.

*Hydrops Pericardii.*—The following case of hydrops pericardii is



interesting, as exemplifying the value of percussion and auscultation in the diagnosis of effusion into the cavity of the pericardium.

J. A——, a weaver, aged sixty-four, an Irishman, of temperate habits, and of moderate embonpoint, uniformly enjoyed good health until December, 1834, when he had an attack of severe pneumonia of the left side. No unusual symptoms attended the disease, and he was enabled to resume his usual occupations after the 20th of January, 1835. In the commencement of February he observed that his feet and hands were somewhat swollen, and that œdema was occasionally seen in his face. His respiration was not at this time affected, except when he attempted to carry a heavy weight up stairs, when it became short, attended by palpitations. His usual position in bed was horizontal; his sleep sound and tranquil, and his digestion good. The œdema of the legs and arms gradually increased, and on the 16th of February, when the pavements were covered with ice, whilst walking in the street, without any previous pain, he was suddenly seized with a sensation of great oppression in the chest, difficulty of breathing, and palpitation of the heart. At this time he was about a quarter of a mile from home, and the dyspnœa and oppression were so great, that it was with difficulty he reached his dwelling, two hours afterwards.

These distressing sensations augmented each day; they were most violent at night, at which time they assumed all the characters of asthma.

On the 26th of February, the tenth day after the manifestation of the disease, the patient presented the following symptoms:—His countenance expressed great anxiety and uneasiness; skin cool, and of a deep yellow hue; lips of a bluish colour; tongue pale, slightly coated in the middle, clean at the edges; œdema of the cheeks, feet, and hands; extremities cold; forced to sit upright, in consequence of dyspnœa; respiration 36; slight cough, with but little expectoration; no pain; intelligence perfect.

*Thorax.*—Left side, anteriorly, much distended; strongly marked projection, observed under the left nipple; hypochondria bulging, caused by the enlargement of the liver; percussion of the left side yields a clear sound from the clavicle to the upper margin of the third rib; obscure from thence to the lower part of the fourth, below which it is decidedly flat. The obscurity and flatness of sound cover a space of which the outline corresponds with the form of the pericardium, and extends laterally from the junction of the cartilages with the third and fourth ribs of the right side, to a vertical line drawn through the outer fold of the arm pit of the left side. In this



space no respiration exists; respiration in the other parts of the chest in front, natural; posteriorly, percussion normal in the upper third of both lungs; obscure in the lower two-thirds of the right; it is also obscure in the middle third of the left, and decidedly flat below. Sub-crepitant and sibilant rhonchi in lower two-thirds of both lungs; in the upper third respiration weak, but pure; voice resonant in the inferior third of left lung.

The impulse of the heart is not felt in the præcordial space, where flatness on percussion exists, its sounds are feeble, and distant from the ear. The bellows sound however is very audible near the nipple, and less below. Pulse is 90, full, not compressible, irregular, intermittent, intermission often preceded by a quick half beat; pulsation in external jugular vein. Abdomen tumid, no pain upon pressure; percussion of colon resonant; constipation; urine abundant, unattended by pain, and becomes thick upon standing. Liver much enlarged.

The treatment at first consisted in the exhibition of small doses of tincture of lobelia, (ten drops three times per day, increased to twenty drops during the paroxysms at night;) this produced but little effect upon the character of the disease. Subsequently, pills of calomel and squills, (four-fifths of a grain of the former to one and a half of the latter,) were administered four times a day. He was cupped twice on the thorax, and two large blisters were placed upon the right hypochondrium. The tincture of digitalis was given in doses of fifteen drops, three times a day; tympanitis, with which he was sometimes affected, was removed by enemata.

A remarkable melioration in the symptoms was observed on the 6th of March, the day after the application of the second vesicatory. The dyspnœa and oppression diminished, and he was enabled to rest on his side, with his head elevated half the height that had been previously necessary. Respiration 28. Pulse 84. The respiration before this time had been from 30 to 40, and pulse from 90 to 110. The sounds of the heart became more and more audible, and on the 8th of March the impulse over the præcordial region was strongly marked. Percussion of the left side of the chest gradually became more sonorous; the space in which the flatness and obscurity existed, always corresponding with the form of the pericardium.

On the 10th the yellowness of the skin had disappeared; no blueness of the lips; no œdema. Pulse 70; no pulsation in external jugular veins. Respiration 26. Discontinued all medicine previously mentioned, and ordered nutritious diet and tonics.

16th. Percussion of the anterior parietes of the thorax yields a



clear sound, with the exception of the immediate vicinity of the nipple, where it is still rather dull, and in this point respiration is still absent; in all other parts of the thorax anteriorly, the respiration is normal; posteriorly pure, except at the base of the left lung, where it is feeble, with obscure sound upon percussion. The convalescence from this time was rapid; the dyspnœa and palpitation ceased; his sleep became tranquil; digestion good; the skin and lips natural in colour, and the health of the patient was apparently reëstablished after the 20th of March.

*Remarks.*—This case presented many of the physical characters and symptoms of the first. It however differs from it in several important circumstances.

In the case of Drummond, the attack came on with intense pain in the præcordial region, extending to the back, and the dyspnœa and oppression followed some time afterwards. In the present instance, on the contrary, there had not been any pain; after an acute disease of the lungs, which resulted in hepatization of that organ, and which *probably* caused a mechanical obstacle to the circulation of the blood, œdema takes place in various parts of the body, the patient uses violent exercise, and suddenly experiences the feeling of immediate suffocation. Upon percussion and auscultation of the anterior parietes of the chest, flatness of sound, and absence of respiration are observed in a space of which the form corresponds with that of the pericardium. This state coming on without fever or pain, removes all idea of this disease being the result of inflammation. The flatness of sound, the want of respiration, and the distant and feeble sounds of the heart, cannot be accounted for in any other way, than by effusion into the pericardium. This idea is confirmed by the fact, that in proportion as the percussion became resonant, the dyspnœa diminished, the respiration was reëstablished, and the sounds of the heart became audible.

Whilst the preceding cases were under observation, the writer had two other patients under his charge, in whom effusion into the pericardium had been diagnosticated and verified by subsequent autopsies. One was the case of a woman, aged thirty-five years, who died of phthisis, complicated with general dropsy. Respiration became very much oppressed four days before death; percussion flat, and no respiratory murmur in the præcordial region. The post mortem examination showed the pericardium greatly distended by a clear fluid. The other instance was that of an infant, aged eleven months, affected with pneumonia, in whom percussion was dull over the præcordial region, from the second rib downwards, and extended laterally from



the junction of the cartilages and ribs of the third and fourth ribs of the right side to the left arm pit. In this case, distention of the pericardium by fluid corresponded with the flatness of sound and absence of respiratory murmur.

LAENNEC thought that small effusions into the pericardium could not be detected by percussion.\* This however has happily been found to be an error. M. Louis has often detected it, when it did not amount to more than two ounces.†

ART. IX. *Case of Phlebitis*. By JOHN ANDREWS, M. D. of Steubenville, Ohio.

MRS. C. æt. 45, milliner, of very sedentary habits, had suffered for years from chronic disease of the liver, attended with general anasarca, habitual constipation of the bowels, painful hæmorrhoids, paroxysms of severe head-ache, *et id omne genus* of ailments for the relief of which she was accustomed to being frequently bled from the arm. On the 12th of January, 1835, she was bled for the relief of one of her usual attacks, attended with a full and frequent pulse, dry tongue, and cephalalgia. On the 13th, in the evening, she complained of soreness of her arm from the bleeding, for which a bread and milk poultice was applied, and continued through the 14th. On the 15th she had general febrile excitement; dry tongue; arm swelled and painful to the touch. She took calomel as a purge, and continued same emollient poultice. On the 17th there was great restlessness; dry tongue; disposition to coma and delirium. Took calomel and magnesia, and had the fermenting poultice with charcoal applied. The treatment was continued through the 18th. On the morning of the 19th I was requested to see her in consultation with Drs. SCOTT, MIERS, and DICKSON, and learned the above particulars from Drs. S. and M. Her situation, at this time, was as follows:—The left arm, (in the cephalic vein of which she had been bled with a spring lancet,) was greatly swelled from the wrist to the shoulder, very painful to the touch, and giving the sense of equally diffused hardness, as if from thickening of the cellular tissue throughout; the colour and temperature of the integuments were very slightly changed. The orifice of the vein was open, its edges thickened and everted, and occupied by a few drops of purulent matter, the quantity of which

\* Laennec, *Auscultation Mediate*, Tome 3re, p. 272.

† *Revue Médicale*, Mars, 1830. Legallois sur la Pericardite.



was slightly increased by pressure directed towards it. The swelling and hardness of the cellular tissue rendered it impracticable to trace the course of the vein. She was extremely irritable, complaining severely whenever, or however slightly touched, as from feeling the pulse of the right side, or the ankles, &c.; skin generally of a waxy appearance; pulse 120, tense, but represented as very changeable in its character; tongue moist, and slightly coated with a white fur; head hot; temporal arteries throbbing; brain oppressed; slight coma and delirium; eyeballs drawn upward, and rolling; excessive accumulation of flatus in the stomach and bowels, causing great distention of the abdomen, with severe suffering; decubitus sunk in the bed. She was taking calomel with nitre and pulv. antimon. and had recently had several black, thin alvine evacuations, the urine being scanty and high-coloured.

In consultation it was agreed to dress the orifice of the wound with a small pledget of dry lint, to make pressure upon the upper part of the vein, and to envelope the entire arm from the wrist to the shoulder with a fly blister, a practice first pursued by the discriminating and judicious Dr. PHYSICK. Internally she was to take calomel and Dover's powder in small and repeated doses.

22d, morning.—Saw her again, and learned that she had frequent evacuations of tar-like stools, and that her skin had been kept generally in a soft perspirable state. The blister had drawn well, and was discharging a thin puruloid matter; the swelling of the arm was considerably reduced, the orifice open, with matter in it, as before; pulse very frequent and oscillating; brain more oppressed; mind more disturbed; general irritability excessive. Decoction of Peruvian bark was added to her other treatment, but she continued to sink, and expired at 4 P. M.

*Autopsy, 8 P. M. by candle light.*—Sallow œdematous appearance of the skin; excessive distention of the abdomen. An incision being made from the wrist to the shoulder of the affected arm, the swelling and hardness were seen to be dependent on the inflamed state of the subcutaneous cellular tissue, and the quantity of serous accumulation diffused through the adipose, which was an inch thick, and of a soft granular structure, easily torn. The cephalic and basilic were the only superficial veins of any size disclosed by the dissection, each of which occupied its usual relative situation, except that the cephalic, at the bend of the arm, inclined more towards the internal condyle, and assumed the place more frequently occupied by the median, or median cephalic. In it the orifice made by the operation was found patulous, its edges thickened, and pus presenting. By elevating this



vessel, it was apparent that the opening of the vein had been properly executed, and that the subjacent fascia was uninjured. For about an inch, both above and below the orifice, the vessel was greatly enlarged, having the appearance of an elongated tumour, at each termination of which it assumed the size of a goose-quill, very firm and round like an injected artery, of a ligamentous appearance, retaining these characters for about five inches each way; the inferior portion then becoming thin and diaphanous, showing the blue appearance of coagulated blood, viewed through the venous coat; the superior portion again enlarging to double its size for about two inches in length, immediately above which and near the axilla the tunics became thin and transparent, as demonstrated by the blue colour of coagulated blood. The cavity of the vein was then opened through its entire length, and was observed to be much contracted in its diameter, containing pus throughout, but accumulated in greater quantity in the enlarged portions. The parietes were firm and dense, the coats being completely agglutinated by the effused coagulating lymph. Above and below the *ligamentous cord*, the coats were thin and collapsed, containing a firm, black coagulum, the inner serous tunic being suffused with a distinct blush of redness, as if the vasa vasorum were highly injected, which was apparent as far as the examination was extended in either direction. The surrounding cellular membrane had formed close adventitious connexions with the vessel, but the fascia, the muscular fibres and tendon of the biceps, appeared quite free from any traces of inflammation. The basilic vein was in its usual situation, near the inner condyle, and at their nearest approach fully an inch from the cephalic, but its coats were thickened, it felt firm and hard between the fingers, and contained purulent matter through nearly an equal extent with the other vessel, the hardened thickened portion being from two to three inches shorter than that of the other. The humeral vein and artery were not examined—nor was our observation continued beyond the axilla, not only because of the objection that existed to disfiguring the corpse, but also on account of the difficulty and uncertainty of viewing minute objects, particularly shades of colour, by candle light.

The abdomen was next opened. The adipose tissue was an inch thick, of a straw colour, and a coarse lobulated structure. The stomach, colon, and small intestines were universally distended with flatus, and forced themselves through the opening in the abdominal parietes, so as continually to endanger their being opened by the scalpel. They were of a pale, healthy colour, free from false adhesions, (except between the fundus of the gall-bladder, and the colon



at its flexure from the right hypochondrium,) and lubricated with a halitus in natural quantity. The gall-bladder contained about a drachm of dark bile. The liver was enlarged; the right lobe projecting two inches below the margin of the ribs, and having a dirty white colour. On pushing the finger into its substance, the parenchyma of the gland broke down before it, precisely as in a healthy placenta, and almost giving to it the sensation of passing through a large sac, the opposing side of which were connected by a few filamentous adhesions.\* Blood issued from its incisions, and no cavity or tubercles were discovered in it, or the slightest appearance of purulent matter. The texture of the left lobe was much firmer, but it was also enlarged, and of an unhealthy colour. Want of time, and the considerations before suggested, prevented our extending the examination to the interior of the stomach and bowels, and to other important parts.

It would seem that there were two distant organs, (if we may apply this term to the veins,) which were the seats of distinct lesions in the above case—the liver, the subject of chronic inflammation, producing ramollissement of its substance, and inducing depravation of general health, and that “irritability of constitution,” which Mr. ABERNETHY assigns as a predisposing cause of inflammation of the veins after venesection; and acute inflammation of the cephalic and basilic veins, probably extending by continuous sympathy along the inner tunic to the great descending trunk, and to the cavities of the right side of the heart. These lesions mutually acted on and aggravated each other, but it is probable that the phlebitis was the immediate cause of the fatal termination of the case. It is also to be remarked, that the occurrence was entirely accidental; that the operation of bleeding was justified, if not actually necessary at the time of its performance; that it was performed in a proper manner, there having been no part injured by it which should not be, and that the consequences were such as could not have been foreseen or expected, and therefore that no censure whatever should attach to the individual by whom it was performed.

It may not be improper to remark, however, that simple as the operation of opening a vein may be, it is yet one not unfrequently involving the use of a limb, or the life of a patient, and that there is no circumstance so apt to produce unpleasant and dangerous effects as one for which no man should be held excusable—the using a *dull lancet*—a *lacerating*, not a *cutting* instrument.

\* Simple ramollissement of Abercrombie.



## MEDICAL EDUCATION AND INSTITUTIONS.

### ART. X. *System of Medical Education, and Arrangement of the Medical Profession in the Austrian States.*

IT would betoken extreme ignorance of the present state of medicine, and the utmost inattention to passing events, not to perceive that the time is fast approaching, when some change will have to be made in this country in the scheme of medical education. Within the last quarter of a century, the whole aspect of our science has entirely changed. Not only have new branches been created, but others which seemed to have little practical bearing, have risen to the highest importance—become, indeed, the very basis of the scientific edifice. Physiology was formerly a mere collection of imperfectly determined hypotheses. Pathology, an isolated history of post mortem appearances. Materia medica, a botanical and chemical account of drugs, their doses, with formulæ for their administration. The practice of medicine, an enumeration of symptoms fancifully grouped, each group being considered as a disease—with the detail of remedies believed to be useful for their removal. These departments, if not entirely distinct, were at least but slightly connected one with the other; they resembled the materials of an edifice rudely piled together, uncemented, and without any foundation.

The discovery of general anatomy,—which unfolds to us the structure, character, and properties of the tissues, fluids, and organs,—with the impulse and direction it gave to the study of physiology and pathology, has led to an entire new order of things—it has shown the mutual relations of the several departments of medicine, the complete dependance of one on the other, and furnished a broad and enduring basis for the new fabric of medical science.

Physiology now embraces within its scope, the consideration of the healthy functions or offices of the tissues, apparatuses, and fluids which compose the organism. Pathology is the history of the morbid actions and conditions of these components of the system, and of the symptoms to which they give rise; it teaches us how to interpret symptoms—the language of the suffering organs, and to learn from them the nature and extent of the morbid lesions. It includes also physical diagnosis, or the means of discriminating diseases by physical and positive signs, a branch of pathology of the highest



importance, and of very recent origin. *Materia medica* investigates the various modifiers of the organism; unfolds the particular modifications they induce in the several organs, tissues, and fluids, both in their healthy or physiological, and in their numerous morbid or pathological conditions. *Therapeutics* points out the mode of employing these modifiers, so as to controul or arrest the pathological actions of the tissues, and restore them to the exercise of their healthy functions. It will thus be perceived, that the science forms a complete whole, the parts of which have the most intimate and closest relations—so intimate, indeed, that an ignorance of one precludes the possibility of a thorough acquaintance with the others. How, for instance, can we hope to arrive at a knowledge of the functions of the tissues and apparatuses, if we know not their structure; how to determine their pathological actions and condition, if we are ignorant what constitutes their physiological state; how to be able to arrest these pathological actions, and restore the tissues and fluids to their physiological condition, if we are unacquainted with the precise modifications which our agents produce in these tissues and fluids?

We have as yet only alluded to the main edifice; there are various collateral structures, which form an essential part of the fabric. Special and regional anatomy, surgical pathology, and operative surgery, obstetrics, hygiene, medical jurisprudence, &c. &c. each must be explored by the votary of our science.

We will not enter into any details, or indulge in further remarks at present, for there is reason to fear that the time has not yet arrived when the demands of science will be gratified. All therefore we propose now, is to invite attention to the subject. It has been a favourite part of our plan to extend among the profession in this country a knowledge of the medical institutions of Europe, and in conformity with this we have obtained accounts of the schools and hospitals of Paris, and of some parts of Italy, which will be found in our previous volumes.

We now lay before our readers an account of medical education in the Austrian states, from a foreign journal;\* and shall communicate such further information relative to the same subject as we may hereafter collect. By this means, when the time for action arrives, the profession will be in possession of the materials they may require for their guidance.

The laws by which the profession in Austria is governed, have for object the improvement of medical education—the supplying to the public competent practitioners—the regulation of the apothecaries,

\* London Medical Gazette, November 22d, 1834, from the *Observateur Médical Belge*.



who are alone permitted to vend drugs and medicines—the checking of quackery—and the enforcement of hygiene and medical police, which is directed in each district by the magistrates under the advice of a body of physicians appointed for that purpose.

#### I. SYSTEM OF EDUCATION.

There is no distinction made, in the Austrian Universities, between the education of physicians and that of surgeons. The students destined for either pursuits, must attend the courses of both branches of the healing art, and not until they have completed their curriculum are they allowed to choose which they shall practise; but they may practice both if they choose, and be found properly qualified.

The qualification for a doctor of medicine or surgery, consists in a *five years' attendance of lectures in some national university*; the three first years being devoted to the study of the collateral sciences and the theoretical parts of medicine, and the last two being employed in special therapeutics and practice, at the bedside of the patient. The following is the order in which the several branches are studied:—

First Year - -	1st Semestre.	{ A general introductory course of medicine and surgery. A course of anatomy. A course of special natural history.
	2d Semestre.	{ The courses of anatomy and natural history repeated. A course of botany.
Second Year -	1st Semestre.	{ Anatomy and physiology of a more advanced character. General chemistry.
	2d Semestre.	{ Anatomy and physiology continued. Pharmacy and animal chemistry.
Third Year - -	1st Semestre.	{ 1. General pathology, (etiology, semeiology, and general therapeutics.) 2. Materia medica and chirurgica, dietetics, and art of prescribing. 3. Theoretical surgery, (general and special pathology of surgical disorders.) Midwifery.
	2d Semestre.	{ Courses 1, 2, 3, preceding, continued. Bandages and surgical instruments, from June till the end of the medical year.
Fourth Year -	1st Semestre.	{ 1. Special therapeutics of internal maladies. 2. Internal clinique.
	2d Semestre.	{ 1 and 2 preceding continued. Veterinary medicine.
Fifth Year - -	1st Semestre.	{ 1 and 2 of preceding year continued. Forensic medicine.
	2d Semestre.	{ 1 and 2 continued. Medical police.



It is to be observed, with reference to clinical instruction, that both in Austria and Prussia, students who have completed their theoretical courses, are divided into practising pupils and assistants; the former being entrusted with the treatment of a certain number of patients, whom they visit under the inspection of the clinical professor. If they acquit themselves well, he does not interfere; if not, he instructs them in the questions which they ought to put. After each visit, the professor interrogates the pupil as to the class, order, and species of the malady, the prognosis, and the indications. If the pupil be right, he is requested to prescribe aloud. An assistant is attached to each practising pupil, who goes round with him, and in the course of six months becomes a practitioner himself.

The lectures on physiology, pathology, materia medica, and special therapeutics, as well as the clinical remarks at the patient's bedside, are delivered in Latin; in all the other courses the German is the language employed. In Hungary, Poland, and Italy, the language of each country respectively is used.

Previous to admission to the medical schools, the pupil must produce a certificate of having attended a three years' course of humanity in some national school; and pupils are arranged, in general, in three classes; the first consisting of those who have answered best, and obtained the title of *eminent*, the others according to their respective merits. Diligence and moral conduct are high recommendations in the certificate for admission; in fact, the law expressly declares that this must be seriously attended to, in order to exclude, as much as possible, from the study of an art so important and difficult as that of medicine, all those who are not more or less distinguished by their attainments and good conduct.

Matriculation is not attended with any expense.

Students are forbidden to smoke cigars, or to frequent drinking-houses.

No student can advance to a higher class without having attended that immediately preceding it; and he must pass an examination. If his answering be but second-rate, he must go through his last courses again; and if upon another trial he be found deficient, his name is erased from the list of medical students, and he is precluded from entering any other national university.

Every professor is bound to examine his class once a week publicly, for at least half an hour. The results he must note down, for the better arrangement of the classes. At the end of every semestre, the pupils are examined in their previous courses; the first examination takes place in the latter part of March, the second towards the end of August; the particular day and hour being announced a month previously. The director and a commissioner of instruction are obliged to attend at these trials; and the professors are enjoined by the law to be as strict as possible, and not to allow themselves to be carried away by an ill-judged indulgence. It is during the first year that they are expected to be most severe, in order to get a timely riddance of those students who are dull or negligent, and to secure the state against the danger of having ignorant physicians or surgeons admitted to practice. In the certificates given on these occasions, not only the abilities of the pupil are set forth, but his moral conduct is noticed.

The fees paid by each student amount to 30 florins, (about \$13, 33 cents.) a year—3 florins a month. These charges go chiefly to the support of a certain



number of poor but respectable students, who belong to large families of straitened means, and are distinguished for their diligence and good behaviour.

In order to be admitted to the final examinations, the pupil must show that he has acquitted himself well at the weekly ones, as well as at those at the end of each semestre. The Dean of the Faculty is obliged to pay special attention to this rule, or otherwise forfeit 20 florins to the general fund. Two students cannot be examined at the same time. The judgments of reception are *Satis*, *Bene*, or *Valde bene*. If two professors vote for the candidate's rejection, he must be examined over again at some future time, going through certain courses prescribed to him in the interval. If he decline this, he is not entitled to have his examination fees refunded to him; but if he submit to a second trial, he has nothing additional to pay. Not so, however, if he be rejected a second time: he must pay his fees afresh for a third examination. Nobody can be examined more than three times: a third rejection disqualifies the candidate from ever practising in Austria.

Previous to the admission of the candidate to examination, he must produce an account of two medical cases treated by himself, and also a report in legal medicine. These papers must be forwarded to the Dean, who communicates them to the examiners, and upon their approval, the candidate is admitted to the final *rigorous* examinations.

The rigorous ordeals for the diploma are two in number. The first is an examination in anatomy, botany, natural history, physiology, general and special pathology of external and internal diseases, semeiology, and general therapeutics. The examiners are the Dean, the President of the Faculty, and the professors of anatomy, botany, natural history, physiology, and pathology.

For the second, the subjects are, chemistry, forensic medicine, ophthalmology, materia medica, art of prescribing, and clinical practice; and the examiners are the professors of chemistry, forensic medicine, ophthalmology, and materia medica, together with a physician unattached to the faculty. In Vienna, the latter person is the vice director, and in the provinces, some practising physician, not a professor.

The candidate may answer, as he pleases, either in Latin or in the vernacular.

Having passed these examinations, he is obliged to write a dissertation on a medical subject. He must also add some theses, which he has to defend publicly against three disputants—doctors of medicine or surgery. The Dean, and the President of the Faculty, as well as four professors, must attend the reading of the dissertation, and copies of it are to be distributed to all who may be present: the said dissertation and theses being written and defended in German, if the Dean grant leave; but this is not very usual, nor without some reasonable pretext.

The expenses of these final *rigorous* examinations are—for the first, thirty-five florins, five florins being paid to each examiner; for the second, sixty-three florins, nine florins to each examiner. The fee to the censorship exercised by each of the professors in turn, is four florins fifty kreutzers; for the admission, &c. sixty-nine florins; to the president of the dissertation, twenty-seven florins; in all, 199 florins, (§ 89.)



If the candidate seek the diploma of doctor of surgery—1, he must be examined in anatomy, chemistry, materia medica, the art of prescribing, forensic medicine, ophthalmology, and the theory and practice of surgery; 2, he must perform two operations on the dead body publicly, and in presence of all the professional men and pupils who choose to be present. Previously to operating, he must give a history of the process which he is about to adopt, describe it, point out the different modes in which it may be performed, distinguish the several advantages and disadvantages of each mode, note the indication and contra-indication, show how the instruments and bandages are to be employed, &c. in short, he must act with all the care and attention he would use with the living.

If a doctor of surgery wish to obtain the degree of doctor of medicine, he must be examined—1, in botany, physiology, natural history, general and special anatomy, pathology, therapeutics, and semeiology of internal diseases; 2, in practical matters relating to internal medicine. For both these examinations, the dissertation, and the admission fees, &c. the expenses are 114 florins, 30 kr. (about \$52.)

If a doctor of medicine wish to be admitted to surgery, he must be examined—1, in the theory and practice of surgery; 2, in the public test required of every candidate for the surgical diploma. The expenses are 110 florins, (about \$50.)

Non-catholic candidates are admitted to degrees by dispensation only; but then there is no oath administered at variance with the religious tenets or observances of the parties.

## II. ORGANIZATION OF THE PROFESSION.

We have now to give an account of the arrangements of the medical profession throughout the States. *The supreme direction of every thing that relates to the general organization of medical affairs, is committed to the Chancellory of the court of Austria.* In the provinces, it is entrusted to the provincial officers, (*Landesstellen,*) who, however, are obliged to have recourse to the Chancellory in all matters of importance. As all kinds of quarantine regulations, and the appointment of *cordons sanitaires*, rest with the Minister of War, the provincial magistracy have chiefly to attend to epidemics which may visit their districts. They are enjoined to take all necessary measures to stifle epidemics at their birth, or at least to prevent their spread.

In every province of the hereditary states of Austria there is a medical man, charged with the supreme direction of sanitary arrangements. This is the *Landschafts-Proto-Medicus*, who is also a member of the council of state, (*Sanitätsrath,*) with a deliberative voice in the provincial assemblies.

The director of medical studies in the University of Vienna is also the *Proto-Medicus* of the empire. His circle of activity is therefore, as may be conceived, extremely wide, for it comprehends the whole sanitary organization throughout every part of the Austrian monarchy. This officer is second only to the Chancellor, with whom he maintains close relations,—the latter demanding his advice on all arrangements connected with the public health. The appointment of the *Proto-Medici* of the provinces is in the hands of the Emperor; their salary is usually 1000 florins, (about \$444 per ann.)



Every provincial government has a medical reporter attached to it, whose duty it is to attend at the meetings of the magistracy, to vote on all questions as one of that body, and to assist in the periodical statements required at head quarters, touching—1, the health of the local population and of their domestic animals; 2, the hospitals, their management, and the treatment therein adopted; 3, the apothecaries' shops; and 4, the conduct of the medical men who are in the service of government.

The provincial magistrates have the charge of the public health in their respective localities, and to them the district medical officers direct their reports on all such subjects; as for example, the rise and progress of epidemics, &c. On every occasion of adopting any new sanitary arrangement, they are obliged to take the opinions of the medical faculty of the province.

The district medical officers, (*Kreisphysiker*,) are appointed by the provincial authorities, with the consent of the *Proto-Medicus* of the province; and finally the government sanctions the appointment, if not otherwise advised.

In those towns which possess a university or a lyceum, the *Proto-Medici* are also directors of medical studies, presidents of the faculty, or the College of Physicians. But Vienna is excepted from this arrangement: there the *Proto-Medicus* of Lower Austria only exercises his jurisdiction beyond the capital. Those universities also are excepted which, like that of Pesth, possess at the same time a Director and a *Proto-Medicus*.

One part of the duties of the *Proto-Medici* is to exercise a political censorship on all works and articles in the journals connected with medicine; the authors are obliged to send their manuscripts to these officers previous to publication. Wherever there are both a *Proto-Medicus* and a *Director* in any city or town, it is the latter who acts as censor.

Among the other functions belonging to the *Proto-Medici* are—1, that of having an eye upon the different orders of practitioners, such as the oculists, dentists, apothecaries and midwives throughout the province; and 2, that of superintending the hospitals, asylums, and prisons. Their qualifications for the post must comprehend an exact knowledge of the nature of the country, its inhabitants, and their habits of life—all with reference to the public health. He must offer suggestions to the government from time to time relative to the means of removing or destroying injurious influences; and his special duties embrace the noticing of every thing connected with ill-judged sites for building, the presence of marshes, bad water, the popular prejudices respecting the physical education of children, &c. He must also see that there is a sufficient supply of clever medical practitioners in each district, and that they be not too far asunder. Quacks, and charlatan practitioners of every sort, male and female, who have not duly qualified themselves by passing the proper ordeals, he is authorized to put down; and he must take care that nobody sells drugs except the regular apothecary, and that the latter offer for sale no emmenagogues, violent medicines, or poisons, unless when applied for through the recipe of a regular physician or surgeon. He has also to inspect the foundling and maternity hospitals.

On the occurrence of an epidemic, he must repair to the place, and take measures with the district practitioners for its subdual; and when it is over, he



must draw up a full report of the circumstances of its rise, progress, nature, symptoms, &c. with such pathological and therapeutical observations as seem to be called for. The apothecaries, and their establishments, are under his strict surveillance; with the injunction, that on the proper discharge of this duty, depends the safety of the subject from the pernicious consequences of bad drugs. When obliged to travel in the performance of his functions, he is paid his expenses and an indemnity. At the end of every year he is bound to send in a report to the government of the province, stating the general sanitary history of the annual period just elapsed: to this he adds a list of the births, marriages, and deaths, and of the numbers received into the hospitals, asylums, &c. with returns of the number cured, or who have died. He appends likewise an account of the atmospheric constitution of the year, and of all the phenomena which seem to affect the health of man and domestic animals; besides all the remarkable cases which have connexion with the province of medicine and surgery. All this is founded on the reports of the subordinate medical officers who have charge of the several districts.

The *Proto-Medicus* of a maritime province is by right a member of the sanitary council of that province, if he reside in the district.

The *Proto-Medicus* of Lower Austria has a most extensive range of duties. Among others, he visits once a month, and without previous notice, all the hospitals within his jurisdiction, including the lunatic asylum, &c.; and the results of his examination are transmitted to government. At the end of every year, he appends to his report a list of all the practitioners within his district, with their names, appointments, and the universities where they studied.

It is a repeated injunction in the ordinances, never to give the appointment of a physician to any one who has not served many years in a large hospital. Recently a law to that effect has been made; and in order to ensure its observance, it is customary, on the occurrence of a vacancy, to advertise it in the Vienna Gazette for several days previous to the final nomination by the court.

It is a strong recommendation to a candidate, that he shall have contributed articles to the “*Medical Annals of Austria*,” the titles of these articles must be set forth, and if they relate to epidemic or endemic diseases, to remarkable cases in pathology, to medical topography—or contain suggestions for the preservation or amelioration of the public health—they are the more favourably looked upon. The careful and successful practice of vaccination, *gratis*, on a great number of poor children, is also a passport to preferment.



## REVIEW.

ART. XI. *An Inquiry into the Principles and Practice of Medicine, founded on original Physiological Investigations.* By G. CALVERT HOLLAND, M. D. Physician to the Sheffield General Infirmary.—*Quandò talis amentia et abusus cessaturus est ? et quandò aurea mediocritus et sobrietas in territorio medicorum triumphatura?*—SCHMIDTMANN. Sum. Obs. Med. London, 1834. Vol. I. 8vo. pp. 540.

THE above volume is the commencement of a series of investigations, the object of which is, as the author expresses it, in his preface,—

“To endeavour to march up directly to the capital or centre of medical science,—to a knowledge of the general functions of the animal system in health, and of the particular mode of their disturbance in disease.”

The present portion of the Inquiry can be viewed, however, only as a general introduction to the system of physiological pathology and therapeutics, which it is the intention of Dr. Holland more fully to elucidate in the volumes which are to succeed. Hence, on some of the most important points connected with the subjects of which he treats, Dr. H. has thrown out merely a few leading hints, and even when he enters into a more extended exposition of his opinions, constant reference is made to subsequent details that are essential to a correct understanding of them. It is scarcely possible, therefore, from what he has furnished in the volume before us, to present such an account of his peculiar views on the principles of medicine, and the chain of reasoning by which they are supported, as would be in all respects just to him and satisfactory to our readers. In order to do this, it would be even necessary before considering the contents of the present volume, to enter into a very full examination of a previous publication from the pen of the same author; we allude to his experimental Inquiry into the Laws of Organic and Animal life; for upon the physiological doctrines set forth in that work much of the pathological reasoning of Dr. Holland in this is based. All, therefore, that we can now attempt, is simply to offer a brief sketch of the leading opinions advanced by our author, with the hope, that at no distant period we may be better prepared to enter into an examination of their merits.



It is very evident from the work under review, as from most of those which have recently issued from the medical press of Great Britain, that the pathological as well as therapeutical views of the physicians of that country are undergoing a rapid and very important revolution. The ontological systems which they have cherished for so long a period, are fast giving way, while they are every day becoming more convinced of the importance of physiological medicine. To its leading truths many of the most distinguished among them, both for talents and experience, have already become entire converts. The necessity of correct physiological views, as the only certain foundation for a sound system of pathology and practice, is now almost universally acknowledged. The different organs and tissues of the body are now studied individually, both in their healthy and diseased conditions; and their reciprocal influence in the production of the phenomena of health and disease, carefully and cautiously traced; and although in too many instances even they who have adopted this more philosophic and certain plan of arriving at medical truth, fall far short of attaining their object, yet the numerous important facts and principles to which it leads have already produced a very striking and beneficial influence upon almost every department of the healing art.

“Physiology,” remarks Dr. H. “if properly cultivated, will give us clear notions not only of the animal economy in a healthy state, but of the various phenomena succeeding its derangement, the nature and causes of disease, and the operation of remedial agents. Although the study of this science has yet thrown but a partial or dubious light on these and other matters of equal importance, we are not, therefore, entitled to conclude that it will not, in future, more clearly elucidate them, since it is not difficult to point out the causes which have hitherto limited its utility, and the errors into which preceding physiologists have fallen. p. 41.

“Little dependence can be placed on any inferences drawn from observation and experience in medicine, unless they are made under the more enlightened direction of physiological knowledge.

“From the intimate connexion that exists between the well established principles of physiology and pathology, it is evident that these sciences mutually reflect light on each other, and that a knowledge of both is necessary to corroborate and confirm what is true in either of them. p. 64.

“The pathologist who, in the investigation of disease, conducts his inquiries in the just spirit of philosophizing, first makes himself acquainted with the functions of those organs, or parts of the body, the disorders of which he intends to examine, and in order more surely to arrive at truth, forms an intimate acquaintance with the natural powers of the animal economy. But how rarely have these indispensably preparatory steps been taken by those who have studied the nature of diseases! Led to the investigation of them by the accidental



success which has followed a certain plan of empirical treatment, or by traces of disorganization observed, on dissection, in some particular organ, their object has seldom been to ascertain the principal laws of the system in order to gain correct views of the origin and character of local or general affections." p. 65.

The foregoing remarks are not less important than strictly correct.

We need not be surprised when we find the English physicians becoming thus more thoroughly impressed with the necessity of a physiological investigation of disease, that they should begin also to view in a more favourable light the writings of BROUSSAIS. Although the majority of them are still very far from adopting, to their full extent, as established truths, the peculiar views of the latter, yet we find them in fewer instances than formerly, denouncing those views as mere visionary hypotheses, either useless or dangerous in the results to which they lead. On the contrary, the real services which that distinguished professor has conferred by his writings upon medical science, in pointing out the only correct method of investigating disease, is at length very generally, though often reluctantly, acknowledged.

Dr. Holland, after noticing the undeserved reputation which the *Study of Medicine* of Dr. Goon has acquired in England, remarks as follows:—

"It is scarcely possible to conceive a greater difference, so far as regards the extent and accuracy of physiological and pathological principles, than that which exists between the medical works of Broussais and the '*Study of Medicine*.' The former display an enlarged and generally correct knowledge of the natural laws of the animal economy, and the origin of the diseases, of which they treat: and it may here be observed, that physiological and pathological views are in them so intimately connected, that a close attention to both is absolutely necessary, without which it would be impossible to understand the mode of treatment recommended by Broussais, and his explanations of the operations of many important remedial agents.

"It must not, however, be understood from these remarks, that he has laid down principles so extensive as to explain the manner in which the numerous external and internal causes influence the more vital functions, how the disordered action of one disturbs the rest, or the precise mode in which many of the curative means affect the powers of life: still less is this general praise to be construed into an approval of his particular notions respecting the seat, nature and treatment of various diseases. It must, however, at the same time, be acknowledged that the works of Broussais are disfigured by fewer errors than most others on subjects connected with the science of medicine. They abound in facts of inestimable value—in reasoning generally clear and philosophical, and in incidental remarks, such as could proceed only from a mind endowed with original powers of no ordinary character." pp. 25, 26.

In a subsequent part of the work, Dr. H. notices the treatise on



chronic inflammation, by the same author, with the remark that, “with all its faults it is unquestionably one of the most valuable medical productions of the present age.”

We must concede the credit to Dr. Holland of having pursued the correct road in his inquiry into the principles and practice of medicine. Much of that praise may with great propriety be bestowed upon his pathological deductions, which he so freely concedes to those of Broussais; namely, that they are based entirely upon physiological principles, with which they are so intimately connected, that generally speaking, the correctness of the first must be admitted, provided that of the latter be clearly established. Although we profess not to criticise doctrines which the author has only partially developed, we fear, nevertheless, that in very many particulars neither his physiology nor pathology will bear the test of a very strict scrutiny.

The main propositions which Dr. H. appears to be desirous of proving in the inquiry before us, and upon which nearly the whole of his pathological reasoning is evidently built, are as follows, namely:—

1. That the blood is the great vital agent by which all the phenomena of health and of disease are mainly produced.

2. That all the deviations from health and the modifications of morbid action to which the human organism is liable, are the result of changes, more or less extensive, in the properties and distribution of the blood, and—

3. That all our remedial agents produce their effects by acting upon the blood either directly or indirectly, so as to improve its properties or to restore its healthy distribution throughout the different parts of the body.

Dr. H. must not, however, be considered strictly a humoralist. His object appears rather to be that of combining in one system both humoralism and solidism.

“Although,” he remarks, “it is incorrect to refer the origin of all diseases to alterations in the qualities of the blood, it is, nevertheless, easy to adduce numerous facts and striking illustrations to prove, that many of the maladies with which the human frame is affected, if not the greater number, are to be traced to this cause. The solidists, who contend that diseases originate in alterations of the animal structure, deviate almost as widely from the truth as the humoralists, and although the doctrines they teach are characterized by fewer absurdities and assumptions, they yet exhibit the same limited knowledge of the more important functions of the body, a thorough acquaintance with which is as essential to the establishment of their own principles, as those of the humoralists. In consequence of their ignorance of these vital functions, (an intimate and accurate knowledge of which can alone explain the cause of any morbid effects in



the system, or suggest the means by which they may be removed,) it is impossible for them to understand how diseases of structure influence the qualities of the blood, or how any disorder in it is the occasion of functional and organic derangements." pp. 7, 8.

To the influence of the blood Dr. H. refers in a great measure, if not entirely, that important agency in the production of the vital actions of the body, which most other physiologists ascribe to the influence of the nervous system. Thus, he remarks, page 301,—

"Digestion, circulation, nutrition, absorption, exhalation, and secretion, are all equally dependent on a healthy state of the blood for the correct performance of their respective offices; since every decided derangement of it invariably gives rise to corresponding alterations in these functions."

Now, although the truth of the foregoing proposition will scarcely be denied by any one, yet it is evident that our author intends to express by it something more than that healthy blood is one of the requisites to the perfect performance of the functions referred to. This will be seen from the following passage:—

"As the blood is the source from which all secretions are derived, and as it contains all the properties essential to the operation of the complicated powers of life, every serious derangement of those properties will necessarily produce morbid effects in the system, either local or general, proportionate to the extent of the deviation of the sanguinous fluid from a healthy condition." p. 299.

The important part assigned by the author to the blood in the production of nearly all the phenomena of the living organism is more clearly shown by his remarks upon the nervous system.

"On the nervous system," he observes, "since the time of Cullen, many ingenious minds have attempted to establish doctrines that have been supposed to unravel some of the great mysteries of the animal economy, such as the principle of life, the function of secretion, the influence of the maternal imagination on the fœtus, the origin of disease, the manner in which the emotions of the mind affect the body, the influence of all sympathetic actions, and various other phenomena. Our knowledge of the nervous system is extremely limited. We cannot say, even in a single instance, how any of its respective functions are performed. We know that motion and sensibility are properties with which it is endowed, bestowed in various proportions on different parts of the body, according to the structure and function of the organ to which they are given,—and, we also know, that the five senses, and the intellectual faculties, perform their several operations by or through the instrumentality of this system. We are, however, in possession of no facts which prove that secretion, digestion, or assimilation is directly dependent upon it, *or that it in any way directly contributes to the exercise of these powers.* It is generally supposed, and by some broadly asserted, that the ganglionic system of nerves, in consequence of the numerous organs to which its ramifications extend, occasionally produces considerable internal disease, spreading from it, as from a centre, to the contiguous



viscera. No satisfactory evidence, however, is adduced to prove that it exerts the degree of influence attributed to it. There is not, indeed, one fact which plainly demonstrates the existence of any such influence, or renders it even probable." pp. 15, 16.

"A knowledge of the influence exercised on the vital powers by changes in the properties and distribution of the blood," he remarks again, p. 70, "renders it highly probable that the nervous system is a much less extensive agent in the animal economy than has hitherto been imagined."

"The circulatory system may be considered as uniting in one common bond the animal economy, so as to render it impossible that any one part of it should be influenced to a considerable extent, without immediately deranging the laws which regulate the whole." p. 400.

Dr. Holland explains, in fact, nearly all the sympathies, whether healthy or morbid, by the influence solely of the blood.

"I have endeavoured to show," he states, "in the 'Experimental Inquiry,' as well as in the 'Physiology of the Fœtus, Liver, and Spleen,' that numerous sympathetic affections which have been attempted to be explained by the supposed action of the nerves, are much more simply and satisfactorily accounted for by that of the sanguiferous system." p. 67.

"The heart, instead of being affected through the brain by the nervous, is acted upon by the sanguiferous connexion existing between these two organs." p. 60.

"If cold be suddenly applied to the surface of the body, and inflammation of the bowels be the consequence, this effect is not produced by any sympathy between the capillaries of the diseased organs and the superficial ones primarily affected; all the changes caused in the constitution of the former, being wholly attributable to the determination of blood to them, arising from the diminished distribution of it on the surface of the body." p. 136.

"When the body perspires freely from exercise, or excessive heat, the biliary secretion is increased; a fact which is generally adduced to prove a sympathetic connexion between the liver and skin, the excited action of the latter being accompanied by a similar excitation in the former. The coëxistence of these two circumstances has led physiologists to regard one as a cause, and the other as an effect. In support of this hypothesis, it is further stated, that when the surface of the body is constricted by cold, the secretion of bile is diminished."

"The secretion of bile, as well as all other secretions, is derived exclusively from the blood, and it will, consequently, be liable to be affected by all modifications in the properties and distribution of this fluid." "Artificial heat, or the general warmth of summer, occasions alterations in the diffusion of the blood calculated to facilitate its chemical changes in the lungs. Perspiration is simply the effect of the increased production of heat. The more general distribution of the vital fluid, and the strong and accelerated pulse, are attributable to the improved qualities of the blood; and to this cause we must also refer the augmented secretion of bile. The liver participating in the general conditions of the sanguiferous system, is necessarily stimulated, and the various modifications occurring in its functions are, consequently, in harmony with the evident causes in operation." "Exercise accelerates the circulation, and facilitates the natural



changes of the blood, and hence we are entitled to expect the same results from the influence of like causes in operation. When cold is applied to the surface of the body, the capillaries are constricted, and the blood is determined to the internal organs, so that the ordinary chemical actions in the lungs are impeded, and the blood is less completely oxygenated, causing the secretory functions of the liver to be proportionately depressed or deranged." pp. 339, et seq.

Physicians have so long been accustomed to regard the nervous system as the chief agent in the production of all the phenomena of life, and as the part of the animal system, which is the first to suffer from the various morbid causes to which any portion of the latter may be subjected, as well as the principal medium through which diseased action is transmitted from one organ to another, that most of our readers will no doubt be startled at the boldness with which Dr. Holland denies to it, that important office and influence. When, however, the whole of his arguments are cautiously examined and duly weighed, we are persuaded that the opinions of our author on this subject, however heterodox they may at first sight appear, will be found by no means destitute of probability. Too much has unquestionably heretofore been ascribed in works on the institutes of medicine to the agency of the nervous system, both during health and in disease. We differ, it is true, from Dr. H. in the mode of explaining the production of many of the vital phenomena to which he refers, but nevertheless fully concur with him in ascribing them to other causes than mere nervous influence.

The remarks of our author upon the sympathetic nerve and par vagum are in the highest degree interesting; we have room, however, only for a very brief notice of them. In reference to the great sympathetic, he remarks—

“The generally ascertained functions of the cerebro-spinal apparatus do not appear to be at all necessary to fœtal existence. The intimate connexions formed with this apparatus by the sympathetic nerve, are for the purpose of maintaining relations and ministering to powers evolved only at birth; the seeming complexity of these connexions is therefore intended to answer ulterior, and not immediate ends. On this principle we may, perhaps, explain the functions and origin of the sympathetic nerve. It does not appear just, to consider it as arising either from the brain or spinal cord, if that portion of it strictly belonging to fœtal existence be regarded as a part of the nerve, which is stated by high authorities to be first formed; and indeed, if it be examined in all its complex relations to a more perfect state of being, the whole nerve cannot be looked upon as springing from the cerebro-spinal apparatus, but only that part of it which is evolved to maintain these complex relations. Hence the sympathetic nerve may be said to have as many origins as it has distinct connexions with the rest of the nervous system; keeping, however, in mind



that the greater part of it has an independent existence, viz. that part which is always found even in the least perfectly constituted fœtus, and which, in the confined sphere of its being, is alone necessary. Its numerous connexions with the brain and spinal cord, but especially with the latter, afford an abundance of nervous energy appropriated to the purposes of motion and sensibility, which its own independent system is altogether inadequate to supply; and it is in consequence of such connexions becoming more intimate and various in the ascending scale of animal life, as well as in beings of the same species, in passing from birth to a fully matured age, that any injury inflicted on these organs is liable to destroy or severely implicate the vital functions. The connexions thus established, not only afford the viscera additional nervous power, but likewise become the media by which morbid impressions are transmitted to the sensorium, rousing it to a consciousness of existing mischief, or otherwise affecting its sensibility. The ganglia of the sympathetic nerve are considered by many as rendering the important actions of organic life independent of volition. There are no experiments which prove this; nor is the reasoning adduced in its favour in any degree supported by facts; but there can be no doubt, that such actions are not under the direct influence of the mind, though it must be acknowledged, that the cause of this independence is involved in mystery."

"From the limited sensibility exhibited by the abdominal viscera in a state of health, it is natural to infer that the sympathetic nerve is not endowed with a high degree of it, and in corroboration of this inference, it may be shown that it is more extensively associated with the anterior roots of the spinal nerves which excite motion, than with the posterior, which excite sensibility. The constant contractions of the heart, and of several of the abdominal viscera, require that these organs should be abundantly furnished with nervous energy exciting motion, but not equally with that exciting sensibility, as the latter is by no means so necessary to enable them to perform their proper functions. The distribution of the cerebral nerves, and their connexion with the sympathetic nerve, explains the acute sensibility which the abdominal viscera occasionally manifest in disease, as well as the reciprocal influence which they exert on each other; it is not however improbable, that this reciprocal influence has been used to explain phenomena which are justly referable to other causes." pp. 449, et seq.

Dr. Holland conceives that in order to explain the cerebral engorgement and consequent tendency to sleep which follow fatigue, it is unnecessary, with Broussais, to refer them to the direct influence of the sympathetic nerve.

"All muscular exertions, he remarks, enfeeble the animal system by the exhaustion of its vital energies, and when this is considerable, the internal organs necessarily lose some portion of their vigour, so that the blood is propelled neither with its usual force, nor in its ordinary quantity, from the centre to the circumference of the body, in consequence of which the brain, as well as all other important viscera, are liable to be congested, independent of any influence being exercised by the sympathetic nerve." "Fatigue may arise from other causes besides muscular exercise, as from deep and continued thought, or close application to any sedentary pursuit. In cases of this kind, the internal engorgement which succeeds lassitude, cannot justly be attributed to an



excessive impoverishment of the system, such as occurs after violent exercise, because the excited action of the functions which occasions this impoverishment in the one instance, does not exist in the other. There is undoubtedly a certain degree of it; but the fatigue which is felt, is not so much caused by this, as by the constrained position of the body, and the want of muscular motion essential to the healthy distribution of the blood, and the vigorous performance of the numerous vital actions." p. 455.

We cannot enter at any length into an examination of the author's reasoning in relation to the functions of the eighth pair of nerves. He conceives that by experiments it has been unequivocally demonstrated that these nerves are endowed with the property of exciting motion, but that nothing has been adduced which so decisively proves that they possess the power of exciting sensation. Hence it will be perceived, that he denies that the changes produced in the air inspired by the lungs, or in the food by the stomach, are immediately dependent upon the influence imparted to these organs by the *par vagum*.

Direct experiments are adduced by BRACHET to prove that these nerves are essential to the sensation of hunger and satiety. When they were divided in animals that had been kept many hours without food, a tube being introduced into the trachea in order to maintain the respiratory function, he states, that the animals no longer manifested the feeling of hunger, which he considers as proved, not by their *refusing to eat* the food that was offered them, but by their not seeking it. In experiments performed by Dr. Holland, some years ago, for the purpose of ascertaining the influence of the nerves in question on the function of digestion, many of the animals, he states, in a short time after the operation, frequently ran about the room, as if in search of food, though in general they were little inclined to move.

"But even admitting," he adds, "that they are dull and inactive, it does not, by any means, seem just to infer that they have lost the feeling of hunger because they do not seek their food." p. 424.

"A severe wound inflicted on any part of an animal, renders digestion difficult; and the same injury will, also, greatly lessen the sensation of hunger previously existing, not because there is any direct change produced in the functions of the stomach and the eighth pair of nerves, but because other and far different feelings are excited in the mind—feelings which, in proportion to their energy, modify the sensations of hunger." p. 425.

A series of experiments are detailed in the work before us, which prove, beyond all doubt, that the division of the nerves does not destroy the desire for food, nor even diminish it in any perceptible degree, during a few hours subsequent to the operation. They like-



wise prove, contrary to the assertion of Brachet, that the division of the par vagum does not destroy the feeling of satiety, but that the distention of the œsophagus with food, which occurs subsequent to the division of the nerves, and upon which Brachet founded his opinion, is dependent upon a paralysis of the œsophagus, in consequence of which it is incapable of conveying the food into the stomach.

The division of the eighth pair of nerves is by many supposed to arrest the function of digestion, in consequence of the influence of these nerves being withdrawn from the stomach. Dr. H. believes, however, he has proved that the suspension of the digestive function is not produced by this cause, but by the disturbance of the circulatory system; for when the natural conditions of this system were maintained after the division of the nerves in question, the function of digestion still continued to be properly performed; thus showing that the nervous connexion between the brain and stomach is not essential to the process of digestion, nor of secretion.

In the opinion of our author, experiments clearly prove also, that the division of the eighth pair of nerves does not destroy the contractility of the muscular fibres of the stomach, nor of the air cells of the lungs, since the lungs and the stomach both continue to perform their respective functions long after this operation.

“The organs in which this contractility resides, derive nervous energy from other sources besides the eighth pair of nerves, and this power, for any thing we know to the contrary, may depend less on such influence than on the inherent and independent properties of the muscular fibres themselves. Admitting that the par vagum excites motion wherever it is distributed, the degree which it produces in many organs may be so trifling, that no serious and immediate injury may be occasioned in the vital operations of the system by the division of the nerve. Its chief function may be to associate in harmonious action various parts of the animal frame, so as to secure its permanent well being, though this association may be of such a nature as not to be immediately apparent on its interruption.” p. 444.

As we have already remarked, Dr. H. refers the production of all diseases to morbid alterations occurring in the properties or distribution of the blood, and as the blood undergoes extensive changes whenever the organs, which influence the circulation, are disturbed in their actions, consequently an acquaintance with the author's views in relation to the sanguiferous system, and the laws by which it is regulated, will be essential to the proper understanding of his pathological and therapeutical doctrines. Into an examination of these views, it is impossible, however, for us to enter fully at present.

The sources of the propulsive powers of the blood are, he remarks,



the heart, the capillary system, and the changes in the capacity of the lungs.

“The muscular motions of the body, which are, indeed extremely numerous, accelerate the flow of blood, but as they are only occasionally, and not unremittingly excited, they cannot justly be enumerated among the permanent causes of its circulation; their influence, however, should be always carefully kept in mind, as it will often be adviseable to excite or suspend them in the treatment of diseases. Some eminent physiologists believe that the capillaries and the changes in the capacity of the lungs, exercise little, if any, direct power on the circulation of the blood. I am, however, disposed to think, that it is possible to bring forward decisive evidence in favour of the agency of the former—evidence which appears entirely to subvert the supposed conclusiveness of experiments adduced to disprove such agency, and the influence of the latter can scarcely be denied, if we impartially weigh the strong facts adduced in its support.

“A better understanding of the functions of the capillaries will certainly lead to more correct views of the origin, nature, and treatment of diseases. To endeavour to ascertain the functions of these vessels, the manner in which they are acted upon by various external and internal agents, and the way in which such action affects the powers of life, is an undertaking replete with interest, and, if successfully pursued, will be attended with the greatest benefits.

“It will scarcely be questioned that the blood is propelled chiefly by the heart, since every invigorated action in it is the cause of the better oxygenation of the vital fluid, a process which, in its turn, gives greater force and frequency to the contractions of this organ; whilst an opposite condition of the heart is accompanied with contrary effects. The action of the heart may be influenced either directly or indirectly,—*directly* by whatever is conveyed to the heart, whether of a stimulating or sedative kind, in the course of the circulation, or through the nerves and vessels connected with it, in which manner galvanism and electricity may be supposed to operate in part, when applied in the immediate vicinity of the heart; *indirectly* by whatever affects the properties or distribution of the blood.” pp. 56, et seq.

The distribution of the blood, according to Dr. H. is modified by the disturbed action of the respiratory organs, whether arising from coughing, vomiting, nausea, sighing, laughing, or speaking; also, by the application of external and internal stimulants and sedatives, the latter not acting directly upon the heart; by injuries inflicted upon the cerebrum, obstacles to the circulation, bleeding, purgatives, the removal of pressure from the abdominal and thoracic viscera, and other causes which it is not necessary here to particularize.

The modifications occurring in the properties of the blood, as our author very properly remarks, have not hitherto formed a subject of particular investigation; and the agency of the blood in the production and extension of morbid phenomena has consequently not



been clearly understood. Modifications in the blood have, it is true, been frequently observed in diseases, and allusions have also been made to them as characteristic of the nature of the morbid affections.

“But all the research and ingenuity of physiologists have yet thrown scarcely any light on their origin and influence, which cannot indeed be at all comprehended without a previous knowledge of the causes which affect the qualities of the blood. A knowledge of these causes will lead to a correct estimate of the relative value of the powers of life, and when this is ascertained, those which are known to exercise the most extensive controul will be easily investigated. *Respiration* may be justly regarded as the most important of these powers, and ought accordingly to receive the first consideration. The various actions of the animal economy are more immediately and more extensively disturbed by the derangement of this function than perhaps of any other.

“If respiration is impeded, the chemical changes in the lungs are imperfectly performed, and blood destitute of healthy, stimulating, and nourishing properties is consequently diffused throughout the body, occasioning much general and local disease; but if, on the contrary, it is unduly excited, the changes are proportionately increased, as blood too stimulating in its properties is circulated, producing both local and general disorder, though of a very different character from that which succeeds a depressed state of the sanguiferous system.” p. 299.

Deviations from the healthy condition of the blood produce corresponding alterations in the functions of digestion, circulation, nutrition, absorption, exhalation, and secretion. It is easy, therefore, our author remarks, to appreciate generally the nature of the connexion existing between respiration and these several vital powers.

“Whether,” he adds, “the deterioration in the qualities of the blood succeed the influence of external agents—of depressing emotions—of injuries of the brain—or of impediments to the circulation in the heart or lungs, it is to be traced to alterations in the quantity of the vital fluid, submitted at any one moment to the action of the inspired air; for these various causes are all capable of disordering the natural relation existing between the proportion of blood in the lungs and the atmospheric air which is inhaled.

“The modifications in the properties and distribution of the blood cannot, however, be justly ascribed to the derangement of the respiratory function solely, when that derangement is of long continuance, since in that case, they are partly produced by disease of the different organs which contribute, either directly or indirectly, to the production of chyle; for if this fluid is deficient in its ordinary nourishing qualities, the arterial blood will necessarily experience a deterioration, although the conditions of the respiratory organs, essential to the chemical changes of the blood, may at the same time be only slightly affected.”

“A morbid condition of the digestive organs occasions disease in every part of the body, especially in the nervous system, the disordered state of which is indicated by frequent and severe head-aches, indisposition to exert, or inability to continue muscular motion, depression of spirits, a restless and irritable state of mind, and various other symptoms, which are generally regarded as purely



nervous. We have, also, the clearest evidence that the heart and the lungs are affected by a derangement of the digestive organs, as well as the qualities and distribution of the blood—the functions of secretion, absorption, and exhalation.” pp. 301, et seq.

In a subsequent part of the Inquiry Dr. H. remarks, that the qualities and distribution of the blood are readily disordered by whatever diminishes the sensibility of the sensorium, or the action of the heart; and he adds, that—

“If the contractions of the heart are less energetic than usual, the lungs will necessarily, in a short time, become congested, because the blood, not passing in a given period so frequently through them, fails to undergo its ordinary chemical modifications, and the deterioration of its properties, occasioned by this circumstance, will, of course, gradually increase its sedative effects, and render its circulation internal. As the distribution of the blood is regulated by the degree of its oxygenation, a diminution in this process will necessarily produce the effect just described throughout the whole of the internal organs. In proof of the accuracy of this opinion, when the chemical changes in the blood are impeded, the extremities and surface of the body are cold, the liver is engorged, and pain is felt on pressing any part of the abdomen, a sense of sinking or oppression is felt about the præcordia, the respiration is quick and difficult, and the pulse small, as well as generally frequent. These symptoms vary according to the susceptibility of the constitution, and the severity of the cause.” p. 390.

The foregoing is a brief and very imperfect sketch of the author's views in regard to the leading causes which produce a vitiation of the blood and cause its irregular distribution, as well as in regard to the more striking effects produced by these changes in the properties and circulation of that fluid. It is sufficient, however, to enable the reader to understand the peculiar features of the pathological doctrines which it is the object of the work before us to inculcate and defend. The correctness of the above views may, with very little hesitation, be admitted even to their fullest extent; and yet the general conclusion which he would seem desirous of establishing by them, that, namely, the morbid conditions and deranged circulation of the blood are in every instance the cause of all the morbid phenomena with which they are found associated, by no means necessarily follows. It does not appear to us that he has succeeded in proving satisfactorily that the changes in the properties and distribution of the blood are not themselves, in many cases at least, the result of preceding disease, and that to the latter are not, also, to be referred many of those deviations from a healthy condition in certain organs, which he has attributed exclusively to a morbid state of the blood.

The question as to the locality of disease has of late years excited a good deal of discussion in the medical profession, and unquestion-



ably the different views entertained in relation to it must have a very important influence upon the treatment pursued in many, if not in all cases. Although the opinions of Dr. H. on this subject, are not formally expressed, yet they may be gathered from the general bearing of his pathology, and from incidental remarks in different parts of the present volume of his Inquiry.

“It would be impossible,” he observes, “were we to be guided in our decision by prevailing notions, amidst the various morbid effects apparent at the same time, or at different times in the system, to fix on any particular organ as the cause of them. The origin and extension of disease have, however, generally been accounted for by referring them to some such organ. The stomach, the lungs, the liver, and a deranged condition of the nervous system, have been each regarded as the primary seat of disease, by the advocates of different systems, all of whom, in support of their own, have brought forward a number of facts seemingly conclusive and satisfactory, so that it is extremely difficult for the scientific inquirer to determine which of the several opinions is correct.” p. 32.

The foregoing remarks are made by the author when treating of the morbid effects of depressing emotions of the mind, which he has attempted to show always disorder, in the first place, the distribution of the blood, in consequence of which the internal organs generally receive a greater proportion than usual; and he further maintains that the circulating fluid is, under such circumstances, invariably less oxygenated than in its natural state.

“By such derangement and deterioration the whole system is more or less affected, as the functions of every part of it are necessarily disordered by them, but some will be more so than others, in consequence of their situation and nature; and the number and severity of the morbid conditions which may ultimately be produced, will be in proportion to the influence which the organ affected exerts on the system. That the lungs in one person, and the liver in another, should be principally diseased, is attributable to causes which it is impossible to discover, the knowledge of which, however, is scarcely essential to the establishment of sound practical views.” p. 32.

In the foregoing remarks the author evidently advocates the idea that local diseases are produced by the general morbid condition of the sanguineous system. The following sentence, however, would imply that while he admits this to be true, it is with certain important modifications.

“Although it is possible for parts of the capillary circulation to be alone affected, they will always be influenced by changes in the general circulation. It cannot, indeed, be otherwise, as the former is simply the termination of the latter. A particular attention has of late years been paid to the capillary system, both in this country and on the continent, for the purpose of ascertaining its exact condition in different diseases, and various doctrines have been formed on the changes observed in it, which are either imperfect, from being founded



on too partial observation, or erroneous from a misinterpretation of the morbid phenomena apparent in various disorders. Pathologists, who have studied this subject by confining their observations almost exclusively to the capillaries, without endeavouring to ascertain the nature of the connexion existing between them and the general circulatory system in disease or health, failed to acquire clear and enlarged views of the origin, nature, and treatment of the numerous diseases which have formed the subject of their investigation." p. 124.

"All the important vital actions of the animal economy are performed by means of the capillaries, and all diseases, whether local or general, may be justly considered as seated in these minute vessels: hence, it is evident, that a knowledge of their several functions, and the relations which they hold to the general circulatory system, would be attended with the greatest advantages to the science of medicine, as the proper understanding of them is calculated to remove much of that obscurity which involves the seat and nature of an extensive class of diseases, chiefly affecting the chylopoietic viscera or the respiratory apparatus, the origin and character of which diseases cannot be at all explained on existing pathological and physiological principles. The diseases to which I allude are generally considered local, that is, situated in some particular part of the body, as the stomach, lungs, liver, or certain portions of the alimentary canal—diseases to which females and persons of sedentary habits, or melancholic temperaments, are most subject. The term extensive class of diseases may, perhaps, lead the reader to imagine that some of these are strikingly different in their origin and nature. They do, indeed, vary sufficiently in these respects to allow the nosologist to institute distinctions between them, and, if unacquainted with certain conditions of the system, common to almost all of them, he will very probably regard them as perfectly independent affections, though they are intimately related in their nature, arising generally from the same source, and differing only in the number and character of their symptoms, according to the susceptibilities of the constitution, the nature and duration of the exciting causes, and the particular kind of remedial measures employed in the treatment of them. If the stomach be the organ affected, although there may be an evident degree of disorder existing at the same time in other parts of the body, the disease is immediately designated indigestion, and treated as such; or if the lungs be considerably deranged, a derangement which is indicated by difficult breathing on slight exertion, frequent cough, and pain in the chest, either constant or occasional, the disease receives a name which refers solely to these organs, being probably regarded as the first stage of phthisis, or if the liver should be more particularly disordered than the above mentioned organs, it is said to be the seat of the disease. By adopting this confined and erroneous mode of investigating the seat and nature of the morbid phenomena, the causes of the general derangement are overlooked, though they are really the origin of these dissimilar diseases, which, however little connexion they may appear to have with each other, actually differ only in certain immaterial points, not in those constitutional conditions which are characteristic of them all. The striking symptoms of resemblance are found *in the deteriorated properties of the circulating fluid, and the irregularity of its distribution, or in what necessarily follows from these two circumstances, congestion of the internal organs.*" pp. 128, et seq.



The views of Dr. Holland, in relation to the locality of disease, will more fully appear from his remarks on the morbid affections of the mucous membrane. To these affections so large a portion of the attention of physicians has within a few years been directed, and as, from the frequency of their occurrence, they constitute certainly one of the most important classes of diseases, we shall make no apology for the length of the following extracts. In presenting these extracts we may remark, that while we grant that most of the general propositions which they contain are founded in truth, we must be permitted to deny the correctness of many of the inferences which the author deduces from them. So far from a deranged condition of the *general circulation* being the first, or even a very early link in the chain of causation by which disease of the gastro-intestinal mucous membrane is ordinarily produced, we shall often, if not generally, find it to be one of the very last of the morbid phenomena resulting from the latter.

“The heart,” remarks Dr. Holland, “propels the vital fluid to every part of the body, but the energy with which it is circulated in the different organs varies as they are more or less remote from the source of motion. This simple and incontrovertible fact will satisfactorily account for the origin of particular diseases in various situations, at the different periods of life, whether the effect of obvious circumstances acting from without, or of natural changes occurring within the system. Though the whole of the mucous membrane is supplied with blood of the same quality, yet the farther it is removed from the heart, the more easily is its circulation influenced by depressing causes, giving rise to congestion or inflammation rather of a chronic than acute form. On the contrary, the nearer any part of the mucous membrane is to the heart, the less liable is its circulation to be greatly disturbed by the same causes; and when disordered, its diseases partake rather of an acute than chronic character. It is, also, worthy of observation, that chronic diseases of the mucous membrane in the immediate vicinity of the heart, are often the consequences of an acute affection, whereas chronic diseases remotely situated from this organ, are frequently chronic from the commencement. The justness of these remarks might be illustrated by a reference to the several diseases usually found to attack the mucous membrane of the thoracic and abdominal organs. Those of the former at an early age, and in vigorous constitutions, at every period of life, are mostly acute. Those of the latter are more generally chronic. It may, perhaps, be supposed that these differences are attributable to the peculiar functions performed by the mucous membrane, and not to those differences in the conditions of the several parts of the sanguiferous system to which my observations almost altogether apply. That the functions of this membrane are very dissimilar in their nature is evident: it will, however, appear, on mature consideration, that the different degrees of vital action which they possess, (without making any reference here to the ends which are accomplished by that action,) depend on the more or less vascular state of the organs to which



they belong; or, in other words, on the quantity and quality of the blood distributed to them. A vigorous condition of the sanguiferous system is found to exist to the greatest extent in the divisions of the mucous membrane the nearest the heart, and to the smallest extent in those the most remote from it, facts which strongly corroborate the arguments previously used." p. 94.

"Several divisions of the mucous membrane are extremely liable to be disordered from their immediate vicinity to certain organs. The liver and the spleen are very often congested long before any general changes of structure occur in the animal frame, or in these particular organs, but this derangement tends to produce such changes in the alimentary canal, in consequence of the circulation throughout the chylopoietic viscera being disturbed, or its existing disorder aggravated by the derangement of the aforesaid organs. Congestion of the liver and spleen will undoubtedly exercise considerable influence on the circulatory functions of contiguous organs, and it is equally probable, that a morbid condition of the lungs will exert a similar influence on the mucous membrane of the respiratory apparatus. There are circumstances which must be duly considered, in conjunction with the observations already made, respecting the modifications in the nature and seat of diseases of the mucous membrane, caused by its situation being immediately contiguous to, or widely remote from the heart, as they undoubtedly exercise an extensive influence on the powers of the sanguiferous system." p. 96.

"The mucous membrane is liable to be affected by whatever excites or depresses the capillaries on the surface of the body, because every general modification in them will necessarily produce proportionate changes in the same system of vessels throughout the whole of the internal organs, and consequently in the capillaries of the mucous membrane. When the action of the superficial vessels is enfeebled, blood is determined to the internal organs in quantity according to the severity of the depressing cause; but if, on the contrary, it is greater than natural, this fluid, possessed of additional oxygenated properties, is equally distributed throughout the system." p. 100.

"The secretions of the bowels are generally augmented when their numerous capillaries are in a state of congestion or irritation. The latter condition may, perhaps, always depend on increased vascularity. During the operation of purgative medicines, frequently in cases of mental emotions of a depressing character, and on the application of cold to the surface of the body, the secretions are abundant. Purgatives, mental emotions, and cold, occasion the same congestive or irritable state of the capillaries of the bowels. The action of heat is the converse of that of cold. The former stimulates the superficial capillaries, in consequence of which, they receive more blood than usual, a modification in the sanguiferous system which withdraws from the internal organs a quantity of the vital fluid, and thus facilitates its chemical changes in the lungs, giving to it additional oxygenated properties, which maintain in vigorous action the powers of life long after the primary exciting cause has subsided." p. 103.

The leading doctrines set forth in the preceding sentence, will admit of very considerable dispute. There is no evidence, whatever, that when a sedation is produced in the external capillary tissue by cold, that there is an increased amount of blood determined to the



capillary tissue of the mucous membrane, or on the other hand, that when the external vessels are excited by heat, there is a diminished quantity of blood contained in the capillaries of the mucous membrane, as well as decreased activity of these vessels; on the contrary, all the phenomena which result upon the application to the surface of cold or heat, prove, we conceive very clearly, that the sedation or excitement which takes place on the vessels of the skin, occurs also to a certain extent in the vessels of the internal mucous membrane.

“The mucous membrane,” according to our author, “possesses no relations to the circulatory system, which differ much from those of the abdominal viscera, and hence when the motory organs of the blood are disordered, the functions of this membrane, in common with those of the other chylopoietic viscera, are liable to be deranged. It does not, however, follow, admitting that each of these organs, when thus disordered, receives an additional quantity of blood, that they will exhibit an equal degree of morbid derangement. As the different organs are not all possessed of the same delicate structure, and do not exercise the same important functions, it is clear that though the whole animal system may be disordered, they will not all be deranged to the same extent.” p. 106.

Dr. H. remarks, that a knowledge of the different agents engaged in the propulsion of the blood, which are capable of disturbing the circulatory apparatus, and of the manner in which they act, at once exposes and accounts for the fallacy and imperfection of the views of Broussais respecting the nature and origin of gastro-enteritis, dysentery, cholera, and other diseases.

“In the consideration of these disorders, his attention was fixed too exclusively on some one organ, regarding it as the cause of the whole mischief; whereas its morbid condition is generally an effect coëxisting with many other similar effects, which were either altogether overlooked by him, or regarded only as originating in the derangement of the particular organ to which he was, at the time, giving a too exclusive attention, whether it happened to be the stomach, or any other of the abdominal viscera.” p. 107.

The observations of our author in relation to the usual terms, functional and organic, so commonly employed by the English physicians to denote a difference in the nature of diseased action, are in the main extremely pertinent.

“There are few terms,” he remarks, “more frequently employed in medicine than functional and organic, as descriptive of different kinds or degrees of disease; but it may be inferred from the indefinite and various notions attributed to them, that the conditions of the system, which they are supposed to indicate, are very imperfectly understood. The general observations made on this subject, as well as the opinions contained in the best medical treatises of the present day, seem to convey an idea, that the function of an organ is somewhat independent of its structure or physical conditions, for it is commonly said, in speaking of many diseases, that they are *only* functional. Now it is impossible



for functional disorders of any kind to occur without being the consequence of organic changes. The term organic, in contra-distinction to functional, is conceived to imply a *manifest* alteration in the structure of an organ—such as a diminution or enlargement of its substance, or some evident change in its appearance. It cannot, however, be doubted, that unequivocal modifications may take place in the numerous capillaries of an organ, such as a total or partial obliteration of many of them, and yet, on an ordinary examination, no traces of such modifications may be clearly perceived.” p. 403.

“Functional disorder is, in most cases, a diseased action of the capillaries, the structure of which is almost sure to be more or less affected at the time, although it is not in our power to demonstrate the fact. Nature has not been so parsimonious in her gifts, that even a permanent diminution of them in the animal economy necessarily becomes immediately manifest in the less perfect operation of the vital powers, and, therefore, the absence of direct evidence cannot be considered as proving that organic changes do not succeed every striking functional derangement. According to this view, it is clear, that diseases, generally considered functional, are unquestionably organic.” p. 405.

“The terms functional and organic, may, indeed, be employed to describe different degrees of disease, but not, as they have hitherto been applied, to express actual differences in the nature of the diseases themselves, which cannot be clearly ascertained to exist.” p. 406.

“It is probable that some organs must sooner recover their usual energies, after what may be called functional disturbance, than others, in consequence of structural and functional differences, which it may not be uninteresting briefly to examine. Organs whose office it is to secrete, and whose secretions remain in contact with the membrane from which they are derived, are perhaps more liable to suffer severely from every functional attack, than others which do not secrete a nutritious fluid, or one which remains in contact with the secretory vessels. In the case in which the fluid continues in contact with the membranous surface that produces it, whenever it is poured out, either morbid in quality, or too profuse in quantity, it is calculated to aggravate the disease of the capillaries, and to prolong its duration much beyond the operation of the primary derangement. But in those instances, on the contrary, in which the fluid is removed from the vessels that secrete it, they are not particularly liable to have their existing disease increased in severity, by the injurious influence of such fluid, and hence, vessels so circumstanced, will more easily recover their natural action, than those which are continually irritated by the contact of the morbid matter secreted by them.” p. 409.

We do not profess to have any very clear conception of the above explanation of the author, as to the reasons why certain parts of the body are more subject to organic disease than others. In whatever manner it may be understood, it would appear to us, however, to be a mere assumption unsupported by facts derived from the ordinary cases in which manifest alterations of structure are produced by disease.

“Organic diseases,” it is further stated “may arise from two very opposite



causes, a deterioration of the vital fluid and its consequent internal distribution; or a too excited state of it, arising from its highly nutritious and stimulating qualities, and its consequent accelerated circulation. The former condition of the sanguiferous system produces disorganization, by giving to the capillaries an undue proportion of imperfectly oxygenated blood; the latter occasions permanent structural changes in the heart and arterial system, such as an enlargement of substance or ossific depositions from too much nourishment being furnished to them." p. 409.

The term functional derangement is very generally applied to the frequent attacks of head-ache, vertigo, &c. occurring in connexion with a diseased state of some remote organ, and supposed by the majority of physicians to be sympathetically produced by the latter. But these affections of the brain, according to Dr. H. can in most instances, be shown to arise from a disordered action of the capillaries of the brain, coëxisting with a similar disorder in this system of vessels, extending throughout the whole body, and arising most probably, from irregularities in the distribution and properties of the blood.

"Indistinct, weak, or impaired vision has so frequently coëxisted with derangement of the stomach, that it has, in numerous instances, been considered to arise from the morbid action of this organ, (a sympathetic connexion being supposed to be maintained by certain nerves, between the stomach and the brain,) and has been treated as if such were its origin; and the success attending the practice suggested by this view of the subject, has been generally regarded as a proof of its correctness. That such a connexion exists, and that it may sometimes produce effects which cannot apparently be justly referred to any other cause, will not be denied; decisive evidence can, however, be adduced to prove, that in the most remarkable cases of functional disease, the particular morbid effects cannot be traced to any extraordinary influence transmitted along the course of the nerves from the stomach to the brain; but, on the contrary, to a morbid state of the capillaries of this organ, originating in the disordered condition of the sanguiferous system, which arises from indigestion and its attendant train of diseased actions. Instead, therefore, of regarding the stomach as the cause of numerous inexplicable sympathies, transmitted through the nerves to the brain, is it more correct to consider both organs in many instances, as similarly circumstanced with respect to the condition of the capillaries, from being equally affected by the derangement of the circulatory system; and on those occasions in which the stomach is evidently the cause of various disorders, its injurious influence is chiefly referrable to the modifications produced by it in the properties and distribution of the blood." p. 412.

In the foregoing extract, and in various other portions of his inquiry, the author speaks of a general diseased condition of the capillary system, and of the readiness with which this may be proved to exist; but so far as we have been able to discover, he has not succeeded in establishing the fact, that in any of the instances to which he alludes



such a condition of the general capillary system does exist, nor has he rendered it probable that in any of the ordinary forms of disease it is even possible that it could exist.

It would be very interesting to follow Dr. Holland step by step in his explanations of the effects upon the animal organism resulting from exercise, heat and cold, mental emotions and impure air, and of the manner in which each of these agents acts as a morbid cause, which constitute the subject of the ninth, eleventh, twelfth, thirteenth and fourteenth chapters of the present inquiry. But to do this would extend our review beyond the limits to which it is necessarily restricted. We shall, therefore, be obliged merely to state briefly his opinions in relation to the above subjects, without attempting to enter into a detail of the facts and arguments upon which these opinions are based.

“*Exercise*,” it is very properly remarked by Dr. H. “whether gentle or severe, accelerates the circulation, so that the mass of blood, contained in the body, passes, in a given time, more frequently through the lungs, than during an unexcited state of the system, and receives a proportionate increase of vital energy. This is one important and manifest modification, produced by exercise, in common with every cause that occasions an invigorated motion of the blood; but there may be other changes besides those purely chemical, by which the qualities of this fluid may be considerably improved.

“Exercise, by invigorating the body, directly influences the functions of the abdominal organs, in consequence of which, their several secretions are poured out more abundantly, and with greater regularity than usual; an effect which may be considered, in some degree, though not entirely, independent of the chemical changes induced in the blood; for as soon as the circulating fluid has acquired additional stimulating qualities, and is propelled by the heart with increased vigour, the chylopoietic viscera, generally, are excited to greater action, and this effect continues, long after the cessation of the cause which, in the first place, produced it. The blood is not only improved in its chemical properties by passing through the lungs more frequently than usual, but it also acquires additional nourishing qualities from the more abundant and healthy contributions furnished by the digestive apparatus.” p. 349.

“When, however, exercise is continued sufficiently long to occasion great fatigue, the properties of the blood are deteriorated, and sometimes to such a degree, that it does not coagulate when drawn from a vein. Moderate exercise is productive of additional vital properties, but when excessive, it lessens those properties. An excited condition of the system not only tends to invigorate the powers of life, but also to exhaust them, by accelerating the expenditure of the nourishing properties of the blood, an effect necessarily produced by augmenting the different excretions of the body, so that if exercise is severe, this expenditure being proportionably great, the circulating fluid is at last deprived of those properties which enable it to perform its numerous and important offices. The chemical changes in the lungs may be considered as rendering the blood nutritious, by imparting to it oxygen, and extracting from it carbon; but, if it has become exceedingly impoverished, from abundant excretions, the inspired air



will not modify it to the usual extent, or, in other words, will be incapable of supplying the vital properties, which have been gradually dissipated by the inordinate activity of the excretory functions. It is, moreover, probable that under these circumstances, the distribution, as well as the qualities of the blood, is very much disordered, so that this fluid may be unfavourably situated in the lungs for proper chemical action, which will, also, in part, explain the cause of its deterioration." p. 352.

The influence of *heat* upon the system Dr. H. believes to be chiefly, if not altogether, confined to the production of highly oxygenated blood. The superficial capillaries are stimulated by it to increased activity, which, by withdrawing blood from within, promotes, according to his views, its more perfect chemical changes in the lungs. Heat possesses, he remarks, this influence in common with bodily exercise, exhilarating states of mind, internal and external stimulants and emetics, all of which excite an equable distribution of blood, and consequently, promote its more complete oxygenation. The agency of *cold* produces opposite effects; it enfeebles the circulation on the surface of the body, and, consequently leads to internal congestion. Hence the blood not undergoing a sufficient change in the lungs, becomes deteriorated. The blood is driven by the application of the cold from the surface and extremities, and from its diminished oxygenation it does not stimulate the heart to vigorous action, whereby its distribution is considerably circumscribed. Cold, however, acts with different degrees of severity on the system, according to the character of the circulation existing at the period of its application; the susceptibility to it being always in inverse ratio to the quantity of blood circulating, at any one moment, on the surface of the body. An increased amount of blood circulating in the external capillaries, necessarily, supposes more stimulating properties in that fluid, and a more vigorous circulation.

In his "Experimental Inquiry," Dr. H. has attempted to show, that all violent *mental emotions* act on the system wholly through the respiratory function, and, from the changes which they effect in it, occasion important modifications in the distribution and qualities of the blood. Exhilarating emotions invariably promote the general diffusion of the blood, and consequently diminish the quantity circulating at any one moment in the lungs, thus necessarily conducing to its more extensive chemical changes; they never fail, also, to excite various kinds of muscular contractions besides those belonging to the respiratory apparatus, which also accelerate the circulation, and improve the chemical changes of the blood.

"Depressing emotions may be divided into two classes; those which are strong, but transient, such as are experienced in cases of fright or sudden sur-



prise; and those which, though gentle, are permanent, such as are felt in the ordinary cases of mental despondency. They both produce the same general effect—a derangement in the properties and circulation of the blood: the one, determining a considerable portion of it to the internal organs, either completely arrests the action of the heart, or renders it irregular and feeble; the other, necessarily lessening the frequency of all expiratory acts and withdrawing the individual from cheerful society, lively amusements, and whatever is capable of freely exercising and invigorating the body, greatly disturbs the functions of the sanguiferous system. That the blood, under these circumstances, is disordered both in its qualities and distribution is proved by the usual symptoms attending depressing emotions, when they have continued for a considerable time, such as palpitation of the heart, cough, or difficulty of breathing, a small and frequent pulse, pain in the head, diminution in the production of animal heat, and an evident derangement of the chylopoietic viscera.” p. 383.

In regard to the morbid effects of *impure air*, Dr. H. remarks, that the qualities and distribution of the blood are easily disordered by whatever diminishes the sensibility of the sensorium, or the action of the heart. When impure air is inhaled, it acts as a direct sedative, and its influence is exerted on the animal system, principally in two ways; 1st, by enfeebling the action of the heart; and 2dly, by lessening the sensibility of the brain.

“Whether impure air is absorbed by the lungs, the skin, or the mucous surface, the blood receives it and transmits it to every part of the animal system. Its morbid agency will, however, be chiefly exerted on the heart and the brain, which will be simultaneously, but, perhaps, unequally affected by it. It is allowed by most physiologists, that the capillaries exercise considerable power in the circulation of the blood: the functions of these vessels will therefore be deranged, as a necessary effect not only of the disordered action of the heart itself, but also of the diseased condition of the blood, which influences the contractions of this organ. The liver, the spleen, the kidneys, and the mucous membrane of the gastro-pulmonary and genito-urinary organs may be incapacitated from performing with ordinary energy their several operations, as a necessary consequence of the weak and disordered state of those organs, without the blood and its distribution being immediately and extensively injured. The respiratory organs are simply for the purpose of exposing the blood to the action of the inspired air, and as long as the quantity exposed is not greater than natural, the ordinary chemical changes are effected, provided the air possesses its proper qualities; if not, as before remarked, it will enfeeble the action of the heart and lessen the sensibility of the sensorium.

“The animal system may be so gradually and slowly injured by the habitual breathing of impure air, that this may not appear the cause of the functional and organic derangement which ultimately occurs.”

“When its influence is exerted gradually and slowly, every part of the human frame becomes deeply involved in the derangement induced, and though the stomach, the liver, or the lungs only, may seem effected, it is, however, just to regard the body generally as diseased, its several organs being disor-



dered in different degrees from their greater or less susceptibility, or the importance of the functions performed by them. When its operation is sudden and violent, death or some severely morbid effect is immediately produced. In this case, the moving powers of the blood are arrested, or exceedingly depressed, before the rest of the system has had time to be equally implicated in the mischief; though, even under these circumstances, the whole of the animal economy will necessarily be deranged." pp. 392, et seq.

*Pain*, which is occasionally the cause of disease, produces this effect, according to Dr. H. by occasioning changes in the respiratory functions, by which they are either entirely arrested or seriously disturbed—changes which he conceives sufficient to explain the effects produced, whether these be death or only temporary disorder.

Having now presented a very general, but we trust intelligible view of the leading pathological doctrines advanced by our author, so far, at least, as they are developed in the work before us, the next step would properly be to ascertain in what manner these doctrines are applied to the explanation of the phenomena of individual diseases, but on this point we shall have to be extremely brief, as well from the imperfect details relative to it, which are presented to us in the present volume of the Inquiry, as from the necessity of bringing our review to a close.

On the subject of *inflammation* we have the following remarks in different parts of the work. Speaking of the liability to acute diseases in persons who indulge in generous living, the author states as follows:—

“Acute inflammation arises chiefly from two circumstances, viz. the naturally excited state of the whole animal system, produced by the qualities of the blood, and the two stimulating properties of this fluid. When blood is transmitted, either by external or internal agents, in too great quantity to any particular organ, acute inflammation is liable to be produced by the strong reâction succeeding the determination of it—a reâction attributable to the disturbance of the capillaries, which are possessed of great excitability, and are supplied with blood calculated to increase it when the functions of these vessels are disordered. It is difficult to convey a clear idea of what is meant by reâction, in the sense in which it is here employed. We know, however, that by using friction on any part of the body, for a considerable time, we produce inflammation. Now, in this case the capillaries directly affected receive more blood than usual, or, in other words, the natural relations existing between these vessels and the circulating fluid, are disturbed, and this disturbance causes a reâction between them, from which arise the phenomena of inflammation.

“The condition of the capillaries thus affected are, perhaps, similar to those produced by an undue determination of blood in any other manner.” p. 223.

“It is not in our power to ascertain the exact condition of the capillaries in acute and chronic inflammation; all we know is, that they are at one time congested, and that, at another, the blood circulates in them with accelerated force. To attempt to discover the particular vital changes produced in the constitution of the vessels themselves, by the process of inflammation, or to



show how such changes modify the nature and duration of the disease, would conduct us into the regions of speculation." p. 133.

"In all acute inflammations the blood is too vitalized for the well being of the animal system."

"In the healthy and unexcited state of the body, according to our author, the blood is chiefly found in the internal organs. When inflammation takes place the energies of the system are roused, so that the blood is more equally diffused, and in consequence of its undergoing extensive chemical changes in the lungs, its general diffusion is continued." p. 465.

Dr. H. considers that the doctrine of Broussais and other pathologists, which teaches that nervous irritation invariably precedes an inflammatory or congestive condition of the capillaries, is extremely questionable; in many cases he pronounces it to be obviously incorrect, while he conceives that it does not in any instance appear to admit of decisive proof.

Speaking of *congestion*, which, according to the author, is the state of the capillaries in all cases preceding inflammation, he remarks, that it arises from various causes, all tending, however, to disorder those functions which oxygenate and circulate the blood.

"There is little difficulty in discriminating between acute inflammation and congestion, but a great difference of opinion may certainly exist respecting the phenomena which characterize chronic inflammation and congestion. It is scarcely possible to confound chronic inflammation which has existed long in any gland, joint, or organ, with those disordered conditions of the system which the term congestion, as used in this Inquiry, is intended to indicate. It may, however, be questioned, whether that state of the internal viscera existing in cases of typhus or continued fever be inflammation or congestion, though both will perhaps be allowed to coëxist. The internal organs under such circumstances, are generally more or less congested; some, or perhaps particular parts of them may, from peculiar causes, which it is unnecessary in this place to investigate, be in a state of inflammation. Broussais, from having frequently observed structural modifications in the chylopoietic viscera, in cases of fever, dysentery, or cholera, attributes the origin of these diseases to an inflammatory process. These modifications, however, are the effects of causes, with the operation of which he seems to be unacquainted, and coëxist with much general disorder, the exact nature of which he does not attempt to explain." p. 140.

*Chronic inflammation*, Dr. H. remarks, whether arising from an acute affection, or the slow operation of depressing causes, is preceded by congestion of the capillaries, and is cured, or ameliorated according to the degree of our success in removing the surcharged state of the vessels. That state of the internal organs generally which takes place in females, in whom the uterine functions are disordered, the catamenia being either wholly or partially arrested, the author conceives may be properly designated by the term congestion, not meaning, however, to deny that chronic inflammation may, at the same time, exist in several organs. Congestion, which first



takes place in the series of morbid actions preceding the derangement of those functions, affects not merely one part of the system, but more or less the whole of it, as the properties and circulation of the blood are invariably disordered by every such derangement.

“Chronic inflammation appearing at this time, in one organ, or in several organs, arises out of the congestion generally existing, and may, consequently, be considered as the second stage in the series of morbid changes, a phenomenon which has hitherto tended, in a most extraordinary manner, to conceal the true nature of the morbid state of the vital powers, and thus led to the employment of remedies which apply rather to the existing local diseases, than to the generally disordered condition of the system in which they originate.” p. 142.

“Chronic inflammation may, in some instances, less obviously arise from the congestion of the internal organs than in the circumstances here specified, being, in such instances, produced by causes which affect one organ alone, though it may yet occasion, by its severity or long continuance, that generally morbid condition of the vital powers in which it more frequently appears to originate.”

“From the foregoing remarks on chronic inflammation and congestion, it will appear how difficult it is to offer a definition which clearly separates the two diseases, being, as they often are, intimately blended; the one continually passing into the other in the greater number even of those cases, in which, on a superficial examination, they seem to exist uncombined.—Congestion cannot continue long without producing chronic or acute inflammation, the existence of either, but particularly the latter, being generally supposed to be indicated by local pain and fever.

“Daily observation proves that chronic inflammation may make considerable progress, without producing fever or pain sufficient to indicate its existence, or at least to render the patient acutely sensible of it; it is also equally true, that in many cases, in which congestion alone prevails, there is often much pain, which comes on so suddenly, and is removed so easily, that we can scarcely refer it to inflammatory action. It is probable that the sensibility of an organ may be much increased by a condition of the capillaries, which could not justly be designated inflammation, though the truth of this opinion may be denied with seeming plausibility by those who are disposed to attribute every such phenomenon to inflammation. Congestion of the internal viscera undoubtedly exists in cases of typhus, continued and intermittent fever, as well as in severe attacks of indigestion, and in the greater number of instances chronic inflammation also coexists with it, though rather as the effect than the cause of it. Congestion, altogether uncombined with inflammation, immediately succeeds violent depressing emotions, but, if it continue long, it speedily produces inflammation.” p. 143, et seq.

“Broussais has endeavoured to show that *idiopathic fevers* have no existence, i. e. fevers not necessarily connected, as they have been hitherto commonly regarded with inflammation; and though his reasoning on this subject is, on the whole, just, he lays down no general principles; the result of an intimate acquaintance with the laws of organic and animal life, which satisfactorily explain the origin of the striking diversities in the character of fevers—the nature of



the causes which influence their progress and termination, whether this be favourable or otherwise, or which suggest a proper and efficient mode of treatment. His errors on these important subjects may be traced almost altogether to his limited knowledge of the relations subsisting between the more vital organs of the body, and the functions of the circulatory system." p. 108.

Many portions of the work of Dr. Holland, that we have been unable, from the limits to which we are unavoidably restricted, particularly to notice, are replete with interest, and well deserving of an attentive study. For notwithstanding, throughout the whole volume, every thing is made to bend to his favourite theory of the influence of the blood, relative to its properties and mode of distribution, as almost the sole physiological and pathological agent, yet his observations, on many of the subjects connected with his inquiry into the principles of medicine, are often extremely pertinent, indicating a close attention to the phenomena of health and disease, and capable, in not a few instances, of a very important practical application. These remarks will apply generally to his chapter on the influence of climate, habits and temperaments, on the production and character of disease, and the manner in which a knowledge of this influence ought to modify the principles of treatment; his chapter on animal heat, and the two concluding sections of the work, which treat of nervous irritability.

That we do not agree with the leading pathological views of our author, will be readily inferred from the few remarks we have ventured upon, in relation to some of his doctrines. It is extremely difficult, however, to offer any general opinion in regard to the views which he has advanced in the volume before us, as well for the reasons alluded to in the commencement of this review, as from the frequency with which the author has contrived to blend truth with error. Very many of his propositions must unquestionably be admitted as correct, but others intimately connected with these, as well as the general inferences which he brings them forward to establish, are, we conceive, as evidently erroneous. The principal errors into which Dr. Holland has fallen in his pathological reasoning arise, in our opinion, from precisely the same source to which he attributes those of Broussais, a limited knowledge, namely, of the relations subsisting between the more vital organs of the body, and the functions of the circulatory system. We are ourselves far from being ultra Broussaists—we admit that many errors and imperfections exist in the system of medicine advocated by the physiological school, but we are certainly not convinced that they will in any degree be obviated and supplied by the system of pathology which Dr. Holland is desirous of establishing.

D. F. C.



## BIBLIOGRAPHICAL NOTICES.

XII. *Des Hémorroïdes et de la Chute du Rectum.* Par ALM. LEPELLETIER, de la Sarthe, Professeur de Physiologie et de Pathologie; Membre de l'Académie Royale de Médecine, Ex-Chirurgien en Chef à l'Hôpital du Mans. Paris, 1834. pp. 168. 8vo.

The term hemorrhoid has been applied to so great a variety of distinct affections, by different writers on the diseases of the anus and rectum, and there is so little possibility of comprehending what particular form of tumour is intended when the word is employed without an express definition, that we have sometimes been inclined to desire that it could be entirely banished from the terminology of surgery. Some surgeons rank with hemorrhoids those tumours of the anus which arise from indurations, or from infiltrations of lymph or serum into the cellular tissue; others include those simple extravasations of blood, which, when seated immediately beneath the integument, are thought to occasion the preternatural pouches of Physick; and when more deeply seated, form tumours of more or less extent, in consequence of their becoming incysted, but without preserving, in either case, any direct connexions with the vessels which originally gave rise to the extravasation.

Another class of tumours of analogous appearance, perhaps enjoying greater claims to this title, are those which consist of pouches of cellular tissue, into which injections may be made to flow either from the veins or arteries. Proper varices, and new formations of a truly erectile character, are still more frequent causes of enlargements styled hemorrhoidal, but which, like the others just mentioned, are by no means peculiar to the rectum. If we add the swellings resulting from dilatation of the arterial capillaries, described by Kirby, we shall have a list of different affections sufficiently distinct and numerous, all known to occur very frequently about the anus or rectum, yet differing in no respect from parallel changes of structure noticed in other parts of the body.

After a general description of the anatomy of the rectum, M. Lepelletier notices this confusion, and the peculiar views of many writers who would confine the term hemorrhoid to one or other of these alterations to the exclusion of the others. In order not to change the generally adopted denomination, he then limits the title to tumours of sanguine character, which he reduces to two essential forms; 1st, erectile tumours, and 2d, varicose tumours.

We confess that in order to arrive at precision in speaking of rectal diseases, there appears to us no alternative between the universal application of the word hemorrhoid to every well defined tumour of that intestine, and its total rejection. As it regards our author's distinction, it is certain that a swelling from capillary dilatation is a sanguineous tumour, so also is an ecchymosis, yet are they neither varices nor erectile formations. On the other hand, a varicose condition of the whole rectum, perhaps extending to the sigmoid flexure of the colon, or higher, may almost obliterate the rectum; yet although it differs in no essential particular from the hemorrhoidal ring so often observed at the anus, when it



arises from the same alteration in the veins it cannot be called a hemorrhoidal tumour. Moreover, as the author himself infers, in several places, the two essential forms of the disease are different in their prognosis, their symptoms, and their treatment. In other words, they are distinct affections, and had they been treated distinctly, in the work before us, the treatise would have been more perspicuous and satisfactory. The anatomical structure of the anus, and the arrangement of the hemorrhoidal vessels impress a peculiar character on the progress and necessary treatment of all diseases of the inferior extremity of the alimentary canal, but without changing their nature; and the first part of the work of M. L. is devoted to the effects of this structure and arrangement upon varices and accidental erectile formations of the anus and rectum, the subject being arranged under the several heads of causes, symptoms, progress, complications, terminations, analogies, prognosis, treatment, and convalescence. We shall not attempt to follow the author regularly, but, after stating that the whole subject is handled in a manner as satisfactory as the shortness of the essay and the difficulties already stated would permit, we shall confine ourselves to a brief notice of some points of more especial interest.

Under the head of particular symptoms, p. 38, we find the following elements for a diagnosis of the two forms of hemorrhoids. Erectile humours are generally external, sometimes simple, more frequently numerous, and scarcely ever form a complete ring around the anus. Possessing little sensibility when unexcited, they often appear pale and shrivelled, or resemble an empty purse. In a state of erection, they are highly reddened, produce a sensation of distention and pain, more or less acute, particularly when touched. Their erection, particularly in plethoric patients, occurs frequently without local irritation or compression. It is a true raptus of the circulation rather than the result of hyperemia or hypostasis.

“The tumour is formed sometimes of a small and more or less compact mass of cavernous, erectile, vascular tissue, and sometimes of a true cyst, unilocular or multilocular, of which the parietes are susceptible at once of sanguineous perspiration and erection. Injections reach these cysts and tumours, both by the arteries and by the veins—a disposition which explains the vast quantity of blood which these hemorrhoids can yield, particularly when invaded by ulceration.” p. 39.

Cæterus paribus, this first variety presents the greater regularity of periodical flux, under the influence of constitutional plethora, and is more likely to cause dangerous organic degenerations, such as cancer, fungus hæmatodes, &c.

We shall not pause to notice the description of the tumours of varicose origin—the recent researches into the alterations of structure in the veins have fully explained the non-occurrence of continued hemorrhages from incisions into certain varices, by proving that portions of these tubes are frequently cut off from all connexion with the route of circulation; which arrest of the hemorrhage furnished one of the strongest arguments with those who formerly denied the venous character of hemorrhoids in all cases.

Varicose hemorrhoids, though less subject to fluxion from periodical hyperemia, are not entirely exempt from it, but they are proportionally more liable to be influenced by mechanical obstructions, particularly such as retard the re-



turn of the blood through the branches or the main trunk of the inferior mesenteric vein.

The sanguineous discharge sometimes comes on gradually, augments by degrees, and then declines in a similar manner, each attack continuing for five or six days. This is most common in the erectile variety. At other times the flow is sudden and continued, as in venesection, and this is most frequently the case in ruptures of varicose hemorrhoids. When the amount of the discharge is justly proportioned to the excitement and plethora attendant on the paroxysm, the effect is often highly beneficial, and sometimes relieves other and much more serious complaints, which have resisted all plans of treatment. This is the form of hemorrhoid which it is often dangerous to arrest. But when the discharge is profuse, and produces or is attended by a general anemic condition—especially when it is caused by hypostasis, its cure, if possible, should always be accomplished.

In speaking of the character of the discharge, the author shuns the exclusive views which have caused so much contention in the profession.

“Experience shows, in fact, that the hemorrhoidal flux, such as we have defined it, sometimes presents the appearance of red blood—above all, when it is produced by erectile tumours—at other times, black blood, when it is more especially connected with varices. Moreover, this coloration, as well as the fluidity of the flux, may be modified according to its detention for a longer or shorter period in the varicose enlargements, the erectile cysts or in the cavity of the rectum.” p. 50.

M. Lepelletier adds his testimony to the fact that the habitual paroxysmal discharge frequently disappears at an advanced age, marking a crisis in men, somewhat analogous to the cessation of the menses in females, at which period certain obstinate diseases, such as herpes, rheumatism, and gout are very apt to appear. The peculiar type of the paroxysms throws considerable light on the courses of the hemorrhoidal flux, and should never be neglected in determining the plan of treatment. The continued type is observed almost exclusively in cases of mechanical obstruction to the circulation through the veins, which may arise from stone in the bladder, enlargements of the prostate, uterogestation, tumours of the pelvis, chronic diseases, and profound alterations of the liver and spleen, &c. The remittent type results from similar causes, when the mechanical obstructions are variable in their action, as may be particularly noticed in cases of habitual constipation. In the intermittent type, when the intervals are irregular, the attacks are commonly symptomatic of general plethora, or some local irritation—they are very rarely the consequence of mechanical obstruction, except when they result from occasional costiveness, but they are sometimes critical in gout, rheumatism, intestinal neuralgia, &c. When the paroxysms occur at regular intervals, they often correspond exactly with the changes of the seasons, and at others, they are menstrual, without its being possible fully to explain the cause. The duration of an attack may vary from a few days to many months; p. 52. These remarks are sufficient to show the folly of attempting the cure of most cases of hemorrhoids by purely surgical measures, without reference to the internal or general affections of which they are so frequently the consequence.



Passing over the author's remarks on the complications and terminations of these complaints, we reach the section on their analogies, which contains some observations of high interest.

M. L. first cautions us against mistaking for hemorrhoids those blue marginal swellings which, he says, "are nothing but portions of relaxed mucous membrane falling below the anus and in a state of hyperemia from a mechanical stasis under the influence of the pressure produced by the parietes of this opening." p. 59. We entertain different views of the precise nature of these blue eminences, (see *American Cyclop. of Pract. Med. and Surg. Art. Anus, Anatomy of,*) but in proof of the possibility of mistaking a slight degree of true prolapsus ani for a hemorrhoidal tumour, we will merely state that we have known of a recent case, under the charge of a very able practitioner, in which the patient narrowly escaped the application of a ligature for the removal of a partially strangulated mucous fold, which was reduced with the utmost facility and returned no more.

Hemorrhoids are a common attendant on stone in the bladder and enlarged prostate, and may sometimes mask these affections. The same remark holds good with regard to uterine disease, and it may be laid down as a rule, that in all cases of rectal, vesical, urethral, or uterine uneasiness, when the cause of the symptoms cannot be detected in the part where the uneasiness is located, we ought carefully to search for the presence of hemorrhoids. A very curious case is mentioned at page 61, in which domestic difficulty and hardship resulted from neglect of this precaution on the part of an accoucheur, who was consulted by the husband on account of the complaints of the wife, who suffered excruciating pain in coitu. No disease of the genital organs was discoverable, and the complaints were attributed to caprice. The woman was maltreated for some time, until another practitioner detected several extremely sensitive hemorrhoidal tumours on the recto-vaginal septum, nearly opposite the neck of the uterus. These were successfully treated, and all difficulty ceased. Other valuable cases illustrating the same point are appended.

Under the head of treatment, the author considers the contraindications as well as the indications of cure. The latter are ranged under three heads:—1st, to moderate the hemorrhoidal flux; 2d, to palliate the accidents relative to tumours of the same name; 3d, to destroy completely these last.

In fulfilling the second indication, the author strongly recommends the direct application of leeches, unless the parts are in a high state of inflammation; in which case he considers this plan, or the scarification of the tumours, highly dangerous, and advises the employment of similar measures externally on the perineum. For the prevention of the involuntary expulsion of the tumours he recommends an ovoid pessary, which he also uses in prolapsus ani—and he speaks highly of its success. The general experience of the profession has been by no means favourable to the employment of instruments of this character.

When in cases of strangulation the taxis is ineffective or improper, he recommends the division of the sphincter, and states that this is one of the cases which may require a definitive operation; but the general rule, that it is improper to operate on parts in a state of high inflammation—a rule strongly enforced



in this treatise—should render us very cautious in resorting to the latter alternative.

The author then proceeds to review the several modes of operating for the destruction of the tumours, by “incision, resection, compression, cauterization, ligature, and excision.” It is impossible to analyze this portion of the work within the space allotted us, and we must content ourselves with a few passing comments. Under the head of compression, the author speaks highly of a suppository invented by M. Caron Duvillards, which is said to be applicable to cases in which all other surgical measures are positively contraindicated. Certainly an instrument of so much importance deserved either a description in the work or a reference to a description to be found elsewhere. M. Lepelletier has favoured us with neither. The author is by no means favourably disposed toward the ligature, and it is singular that he should think it applicable only to cases of *external hemorrhoids* in timid patients. The fear of the terrible nervous irritation, and the symptoms of strangulation which sometimes supervene upon the use of the ligature, causes him to reject it in cases of internal hemorrhoids—the very cases in which, if it be applied at a proper time and in a proper manner, those consequences are least likely to occur. We have never seen these accidents except when portions of the skin or lining membrane of the anus below the margin of the internal sphincter have been included in the ligature. The remarks on excision are very interesting. The serious consequences that frequently follow operations of this character are fairly stated. The symptoms and effects of concealed hemorrhage are graphically described, and several cases are appended which show the manner and extent of controul which we possess over this most alarming accident.

Not the least important, though one of the shortest sub-sections of the work, is that on the management of convalescents, which contains an account of the necessary precautions against the recurrence of the tumours, a subject too generally overlooked by the surgeon.

The second portion of this essay treats of invagination and prolapsus ani, associated under the general head of “*Chute du Rectum*.” It contains but twenty-seven pages, and the subject appears to be handled with less care than the preceding portion, but we cannot pause to specify instances. A valuable bibliography is affixed.

We have been somewhat free in our strictures in this article, but the intrinsic merit and interest of the work under review is such that it will bear this freedom, and we will therefore indulge in one additional comment upon a species of carelessness so common in the works of French physicians, that we have been almost tempted to regard it as a national trait. When a writer in the *Dictionnaire des Sciences Médicales* once quoted the venerable chief of American surgeons, under the title of M. P. S. *physician*, we excused the mistake as the error of an awkward translator; but what shall be said of a writer who suffers his corrector of proofs to print an English reference thus? “Kirby—on certen severe forn of hemorroïdal exoresens.” Proh pudor!

R. C.



XIII. *A Treatise on the Urethra; its Diseases, especially Stricture and their Cure.*

By BENJAMIN PHILLIPS, Author of a Series of Experiments made to demonstrate that Arteries may be obliterated without Ligature, Compression, or the Knife. London, 1832. pp. 317, 8vo.

The diseases of the urinary organs have attracted a great deal of attention within a few years, and numerous treatises have appeared upon the subject, most of which have contributed something to our stock of knowledge or means of treatment. The work before us contains little that is positively novel, and some things that are debateable, both in theory and practice; yet, as the opinions and practical directions of the author are founded upon numerous cases, fourteen of which are given in detail, and the results of the remainder, added in a tabular form, these remarks should not be considered as conveying censure. Our limits will only permit us to take a very hasty glance at certain points, on some of which we are compelled to differ from the author. A more complete analysis is scarcely possible, for the character of the work requires that it should be read by those who would judge fairly of its merits. In general terms we may state that it presents a candid, but cursory view of the prevailing and conflicting opinions in relation to the history and treatment of urethritis and many of its consequences.

Of the first chapter on the anatomy of the urethra, we shall merely remark, that Mr. Phillips attributes a more obvious muscularity to the membranous portion of the urethra, than we feel prepared to acknowledge.

“On elevating the muscular coat which surrounds the membranous portion, we find that here the urethra is organized almost like the bladder, containing longitudinal and muscular fibres in intimate union, and that it is much less easily affected by insufflation than the bladder.” p. 12.

He combats the opinion that this portion is the most frequent seat of false passages, because it possesses more firmness than is usually supposed, partly from the presence of these muscular fibres, and partly from the fibrous envelope continued upon it from the prostate gland.

We hope that the minute investigations of the present Professor of Anatomy in the University of Pennsylvania, will shortly cast the same light upon the muscular structure of the neck of the bladder and urethra, that they have already reflected upon that of the anus.

Under the head of development of the prostate, Mr. Phillips endeavours to account for the dispute about the third lobe of this gland—the existence and importance of which has been dwelt upon with so much force by Sir Everard Home, but which, according to our author, is only demonstrable in the pathological condition of the organ. M. Serres has proved, that in the fœtus, the prostate is originally composed of four portions, two of which soon unite, so as to reduce the number to three; the final coalescence of these takes place at a later period. Hence an arrest of the union before it becomes complete may give rise to an appearance of a third posterior lobe. Practically, this is of little importance to the surgeon—for whatever may be the natural structure of the part, there is no question that in a diseased condition, the part of the gland intervening between the seminal ducts frequently becomes enlarged, so as to pro-



ject into the neck of the bladder, acting almost like a valve to the orifice of the urethra, and presenting all the appearances of an additional lobe.

The second chapter is devoted to general pathological considerations—and here the author treats at some length, and with considerable detail, of the train of symptoms and changes of structure resulting from irritation and inflammation of the urethral mucous tissue. To the latter cause, he attributes all cases of stricture, reducing the modifications produced by it, to three; namely, “vascular super-excitation, vascular congestion, and interstitial infiltration;” each of which, of course, requires corresponding modifications in the treatment when it gives rise to stricture. Without positively denying the possibility of the organization of the pseudo-membranes occasionally met with in urethritis, he considers the alleged instances so rare, that their occurrence is still questionable.

The latter part of this chapter is devoted to the discussion of the question, whether the mucous membranes can be reproduced after their partial destruction, which the author unhesitatingly decides in the affirmative. Indeed it is strange that this process of reproduction should be disputed by any modern pathologist, in the face of all the evidence furnished in cases of fistula, prolapsus ani, cicatrices improperly treated, excoriations of the groin, axilla, &c. and it can only be explained on the principle that a close attention to particular investigations, is extremely apt to destroy the clear perception of generalities. If we should condescend to except the medullary matter and the articular cartilages, it would be very difficult for an antagonist to prove the absence of this power in any tissue. We might go further, and assert that all tissues, perhaps excepting the cellular, and those just mentioned, are mutually convertible, under certain circumstances, but this is foreign to the present subject.

The author then proceeds to consider the subject of urethritis. He divides the causes of this affection into the mechanical, the chemical, and the virulent or contagious. Among those of the first class he enumerates excess of venereal intercourse between healthy individuals, which may produce in one or both, a more or less intense urethritis. To the testimony already offered in proof of this consequence from such indulgences, he adds the following observations.

“We have seen a woman in the apparent enjoyment of the highest health, a connexion with whom produced urethritis in all who had connexion with her, and who yet never suffered from urethral or vaginal discharges.” p. 65.

Masturbation is noticed as a frequent cause of urethritis, particularly in young girls, and the violence frequently suffered by them, in connexion with libertines who are free from the disease themselves, not unfrequently produces the same affection. This is a medico-legal fact of the highest importance in question of rape, for there is no possibility of distinguishing the purulent discharge which takes place in such cases, from that which occurs in genuine gonorrhœa; and yet its existence in the female, when absent in the male, has been unjustly made the ground of defence by the true culprit, on the plea that it must have resulted from intercourse with some other person actually labouring under a contagious disease.

The liability to such affections in females, is by no means confined to the young or the unmarried, and we have known the peace of families most unwarrantably disturbed by the statements of medical men who were ignorant of this fact.



“We may also enumerate among the mechanical causes of urethritis, contusions of the perineum, the presence of stone in the bladder or urethra, strictures, and in fact, every thing which may mechanically irritate the urethra, or the parts to which it is related either directly or sympathetically.” p. 67.

Besides the very rare cases resulting from chemical irritations, and those much more frequent ones, from intercourse between the sexes during menstruation or leucorrhœa, and those which proceed from the gonorrhœal virus, which Mr. Phillips considers as the sole cause of the contagious form of the disease, he proceeds to the internal causes, which are not less numerous. He mentions expressly, irritations of the alimentary canal, teething, the use of beer, turpentine, cantharides, spices, &c. irritations of the air passages—which the author thinks may plausibly explain the epidemic gonorrhœas observed by Fabre, Goulard, Morgagni and Noel—and lastly, lepra and other cutaneous diseases, which accompany or alternate with urethritis. There is nothing novel in this list of causes, but the various sources of the disease cannot be too strongly or too often insisted on, both on account of the important practical bearings of the subject, and its intimate relations with public and professional morals.

The diagnosis of the contagious and non-contagious forms of the disease is not attempted, but the train of symptoms is clearly described. The vexed question of the identity of the virus of chancre and gonorrhœa is fairly stated, and the opinion of the author is given with great caution. Mr. Phillips uses the term urethralgia to denote those cases of urethral irritation, in which the discharge is wanting, or has ceased, leaving the patient for a long time subject to acute pain in the penis, with scalding, chordee, and all the other symptoms of gonorrhœa. He narrates one case, the only one of this character with which he has been called to contend. After various measures had been tried in vain for its relief, it finally and promptly yielded to an irritating injection which established a profuse discharge. p. 85.

In the treatment of acute urethritis the author depends almost exclusively on the vigorous employment of antiphlogistic measures. General bleeding, leeches to the perineum and groin, hip-baths, diluent drinks, repose, gentle warmth, and rigid regimen, are his favourite measures.

“The application of leeches to the penis, recommended by some authors, is certainly an improper practice; it is frequently followed by ecchymosis, caused by the infiltration of blood into the lax cellular tissue of that organ, occasioning inflammation, and sometimes gangrene.” p. 88.

Here we are compelled to differ entirely from Mr. Phillips—having directed the free application of leeches along the route of the urethra in numerous cases, with marked benefit, and without producing any unpleasant symptoms. Ecchymosis has indeed occurred to a greater or less extent in most patients, but we have never witnessed inflammation, much less gangrene, from this course. Except when very extensive, these effusions of blood are very rarely productive of mischief in any part of the cellular tissue, unless when complicated with other injuries of more important character. Much more serious danger is experienced from the tendency to erysipelas produced by the bite of these animals, when this disease prevails epidemically; but the danger is quite as imminent when the leeches are applied on the perineum or groin, as when they are placed on the penis. The author contends that when the disease has primi-



tively a slow march, and a character little inflammatory, the antiphlogistic treatment is equally indicated, and may be often carried to nearly as great an extent as in acute cases; yet he does not altogether object to the use of excitants, either directly applied to the mucous membrane, or indirectly as revulsives to the alimentary canal or skin, in certain stages of the disease, and says they may be employed with advantage, either separately, or in conjunction with the antiphlogistic measures.

The plan of arresting the progress of urethritis at the very commencement by cauterising the fossa navicularis, is mentioned, and we are cautioned never to attempt it at a later period. Surely the severity of this remedy is beyond all proportion to the urgency of the case—gonorrhœa is usually so mild a disease that this Herculean proceeding, acknowledged to be applicable only before the development of the case, admits of a very slender defence.

The use of the nitrate of silver, for the purpose of modifying the condition of the mucous membrane, in old and protracted cases, stands on very different grounds. This practice, introduced by M. Lallemand, is strongly and justly advocated by Mr. Phillips. The irritation of acute urethritis is concentrated about the fossa navicularis, but in the chronic state it centres chiefly about the curve of the urethra; it is, therefore, in the latter situation that the nitrate of silver should be made to act most decidedly, and the mode of its application should be by two or three light touches, performed by a rapid advance and retreat of the instrument, for in this case it is not designed to act as a caustic, but merely as a powerful stimulant. We cannot pause to notice the remarks on the various well known plans of treatment recommended by others in this disease. In speaking of its occasional complications, Mr. Phillips condemns very strongly the attempt to remove the swelling of the testicle, or orchitis, by irritating the urethra in order to restore the discharge, for he considers the absence of the latter as the consequence and not the cause of the former. The question, whether the gonorrhœal ophthalmia is ever the result of metastasis is not positively decided; but the evidence in favour of the occasional communication of this disease by the contact of the matter from the urethra is granted to be conclusive. Scarce any thing is said of the treatment of this terrible affection, and we cannot permit the opportunity to pass without insisting upon the powerful influence of leeches when applied directly to the ball of the eye in all severe, acute cases of purulent ophthalmia, and particularly in the present form of the disease. We have several times succeeded in saving the organ by their means, under the most desperate circumstances. In one instance, which was unequivocally the result of a direct contact of gonorrhœal matter, the iris in both eyes had become implicated, and was on the point of becoming disorganized; the pupils were extremely contracted and deformed. The rapidity of the case, and the standing and relations of the patient, rendered any attempt warrantable, for the alternative was ruin. Three of the largest *American leeches* were applied immediately at the edge of the cornea of each eye, in the hope that they might penetrate the sclerotic coat, and draw blood from the vessels supplying the iris. Their hinder extremities were cut off by a pair of sharp scissors, and they were allowed to remain until they became exhausted. The violence of the inflammation was completely overcome, and when the leeches fell, the pupil had regained its normal form and dimensions. In cases of less rapidity it is not



always adviseable to cut the leeches, and those of moderate size should be preferred; the measure is then perfectly safe, but it may be well to mention, that extravasation beneath the conjunctiva very commonly succeeds, sometimes occasioning a false chemosis, which, however alarming in appearance, is completely absorbed in a few days.

A chapter on catheterism closes the first part of the work under review. We have already extended this notice to such a length that we shall be compelled to pass lightly over the remaining portion. The seven succeeding chapters are devoted to the nature, varieties, history, and treatment of stricture. The author is strongly opposed to the plan of treatment by dilatation, on account of the length of time that it requires, the extreme liability to relapse, and the frequent occurrence of accidents under its use. He greatly prefers the cauterization of the stricture by the nitrate of silver, but objects with reason to the armed bougie of Hunter, because it gives little security in retaining the caustic, and because the latter inevitably acts upon the surrounding sound parts, as well as on the stricture. The greatest amount of the induration which most frequently occasions stricture, is almost always found on the inferior surface of the canal. Mr. Phillips employs a peculiar instrument for conveying the caustic, which enables him to apply it with certainty to the stricture, without involving other portions of the canal—it is invariably passed through the constricted part, and then acts outwardly, or toward the parietes of the canal. It is now well known that the lunar caustic, thus applied, gives very little pain, unless its action is carried altogether beyond the proper limits. Our author's theoretical views upon this subject might admit of some discussion, but this we must waive for the present. When the contraction of the canal is very considerable, a mould of the stricture is taken, in order to enlighten the mind of the surgeon in directing the point of the instrument, and when the urethra is so nearly closed as to prevent its introduction, Mr. P. uses a cutting instrument, the form of which we do not admire, to enlarge the passage; after which the caustic is employed or not, according to the nature of the case. The high faith in the curative effects of this plan of treatment which the author entertains may be estimated by the following extract:—

“I am decidedly of opinion, that when stricture has been completely destroyed, either by caustic or incision, the use of bougies has ordinarily a tendency to retard the completion of the cure, and we always find the patients do not urine, [*urinate?*] without inconvenience until the use of the bougies has been entirely abandoned. I would here then distinctly place as a principle, to which I conceive observation and reasoning tend, that dilatation is generally useless as an auxiliary means to cauterization, and may sometimes be injurious.” p. 213.

One of the great difficulties in the use of caustic is the determination of the moment when the morbid structure is completely destroyed, and when a further prosecution of the measure would injure the sound parts. According to Mr. P. this may be determined by the increase of pain perceived as soon as the indurated parts are reduced to the general level of the canal, p. 215. We confess our doubts of the propriety of placing entire dependance on this test.

The author next proceeds to give a tabular abstract of the results of one hundred and nineteen cases of stricture, stating the proportionate success, and



the number of consecutive accidents under various modes of treatment. We extract the following, which are a small portion of the facts.

Whole number of observations	-	-	-	-	-	-	119
Cases following urethral discharges	-	-	-	-	-	-	117
Had used astringent injections	-	-	-	-	-	-	49
Had tumefaction of the prostate	-	-	-	-	-	-	14
Treated by dilatation	-	-	-	-	-	-	36
Cured by this means alone	-	-	-	-	-	-	11
Primarily cauterized	-	-	-	-	-	-	81
Of whom recovered	-	-	-	-	-	-	72
Of these 72, there were treated consecutively by dilatation	-	-	-	-	-	-	65
Relapses among the 65	-	-	-	-	-	-	13
Relapses after simple cautery	-	-	-	-	-	-	0
Treated by the urethrotome	-	-	-	-	-	-	5
Successfully	-	-	-	-	-	-	4
Operation not completed	-	-	-	-	-	-	1

The concluding chapter is devoted to the consideration of retention of urine, dependent upon acutely inflammatory, or on spasmodic action. Mr. P. reprobates the plan of forced catheterism in the hands of any but the most practised, nor does he approve of its use even by such. It is certainly one of the least philosophical operations in surgery, and we heartily coincide with the author in giving unequivocal preference to the puncture of the bladder in the rare cases of absolute occlusion of the canal, which will not yield to milder measures.

An appendix is added to this treatise, in which are contained the details of fourteen interesting cases, together with a short account of the several modes of puncturing the bladder and urethra, of urinary abscess and fistula, and of the inflammation of the prostate gland.

In taking leave of this work, we cannot avoid commending the perfect fairness and caution by which it is distinguished. On all disputed points the author presents us with both sides of the question, and in several instances withholds his own opinion. The language is not always remarkable for its strict accordance with established rule, and traces of the mere art of book-making are occasionally perceived, but it may be unjust to attribute this defect entirely to the author. The historical passages are not given with sufficient detail to prove highly interesting, and might have been omitted with safety in a treatise mainly of a practical character.

R. C.

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XIV. *Observations on the Original Causes of Malignant Cholera.* By JOHN S. BOWRON, M. D. New York, C. S. Francis, 1835, p. 41.

Perhaps no disease has ever afflicted mankind, which has called forth so many writers within the same space of time, as cholera. Much has appeared only calculated to mislead, and instead of throwing light on the subject, has involved it in still greater obscurity. False premises, false facts, false reasoning, and false observations, have led to false conclusions, false pathology, and what is still worse, *false practice!* A few years will clear away all this rubbish, which now cumbers our libraries, and we shall be able to view the disease in the light



of truth, and arrive at those general principles, as to its nature and treatment, which will unite a discordant profession, and lead to greater success.

We feel under obligation to Dr. Bowron for this attempt to investigate the causes of cholera; and if he has not met with entire success, yet we must give him the credit of possessing enlarged and philosophical views, and expressing them in a remarkably clear and forcible manner.

After some general observations, Dr. B. remarks—

“With respect to the contagiousness of cholera, we shall say but little; for notwithstanding there are many circumstances which are very strong in confirmation of that opinion, there is not connected with this disease those qualities which would properly class it among contagious complaints. ‘By contagion,’ says Dr. Johnson, ‘is understood a poison generated by morbid animal secretion, possessing the power of inducing a like morbid action in healthy bodies, whereby it is indefinitely reproduced and multiplied.’ It will be found, that cholera does not possess those attributes of contagion. Every one who has seen much of the disease, must have noticed the fact, that whenever a person labouring under cholera is removed to a healthy situation, where particular attention is paid to cleanliness and ventilation, the disease does not extend beyond the person first affected. We have seen a great many instances of this kind, where, if there had been contagion, it would have been impossible for all the friends and attendants of the sick to have escaped.”

Such is the opinion of Dr. B. in relation to the contagiousness of cholera, and it coincides with that now entertained by the great body of the profession. As to the doctrine of *contingent* contagion, which has been supported by some respectable writers in Europe, Dr. B. thus remarks—

“It has been attempted by some eminent physicians, to show that some forms of contagion can only be generated in an impure atmosphere. Hence they contend that many diseases, which they consider undoubtedly contagious, can only be propagated in an atmosphere impregnated with impurities. But even admitting this opinion, which we believe to be untenable, there would be insurmountable difficulties to overcome. For, by this doctrine, we should be compelled to allow that the contagion would be indefinitely multiplied, so long as these impurities continued to exist in connexion with the other circumstances which are deemed essential to its production. This, however, is not the case, as every person who has seen the disease must know.” p. 13.

Again—

“It has been remarked, by all the writers on this complaint, that in those places where the disease has prevailed with the most intense violence, and new subjects have been constantly exposed to the atmosphere surrounding the sick and dying, all at once, at the very time when, if we considered the disease contagious, we should suppose the morbid poison accumulated to the greatest intensity, the disease has suddenly, and almost entirely disappeared, without any perceptible change in those places, or in the state of the atmosphere. Such an occurrence never happened with any contagious disease whatever.”

Dr. B. next proceeds to treat of meteorations diseases, or such as are caused “by certain indefinable constitutions of the atmosphere, independent of any miasmatic impregnations or other extraneous causes.” We believe that Dr. B. has here involved himself in a difficulty, from which he will find it hard to extricate himself. After laying down the above definition, he proceeds to show, why cholera is not a meteoration disease, and in doing so, he modifies the definition in such a manner, as to destroy the very foundation on which his whole



superstructure rests. He says, "*it is not often that meteorations prevail, disconnected with other causes,*" which is admitting that they do sometimes. Now, we go further than Dr. B. and say, that this class of diseases *is always influenced to a certain extent* by other causes, not excepting the influenza, which is quoted by way of illustration. The evidence on this point is indeed so full and satisfactory, that we shall not go into it. Dr. B. thinks it very difficult to confound meteorations and infectious complaints, as the former are characterized by "the uniformity of their course, and the general and indiscriminate manner in which all classes of the community are affected by them." What if it should appear, that Dr. B. has himself confounded them! If these two marks do not characterize the progress of cholera, then we are labouring under a very great error.

"The fact," says our author, "is notorious, and established by testimony, which the most hardy speculation will not deny, that certain localities and particular classes of the inhabitants, were almost exclusively affected by it."

Now, if we admit that such localities have exerted a great influence in rendering the disease more fatal and malignant, it can easily be explained in consonance with Dr. B.'s own description of a meteoration disease, viz. one which may be influenced by "certain extraneous causes."

Dr. B. seems aware of the dilemma in which he has placed himself, and to reconcile his doctrine with facts, too well known and too generally admitted, to call in question, he remarks—

"We see that most contagious and infectious diseases *require a peculiar meteoration influence* to produce an extensive prevalence of them. And in all epidemics, some occult cause pervading the atmosphere, remarkably modifies the character of the prevailing disease."

Again—

"We are not disposed to deny, but, on the contrary, are firmly of the opinion that a peculiar constitution of the atmosphere is essential to the production of cholera; not, however, as the principal, *but rather as a concurrent cause, necessary for the development of the poison.*"

Now, we see not why Dr. B. does not concede the question, by making the concurrence of meteoration *essential* to the production of cholera. At any rate, this will not apply to a purely infectious complaint. Again—

"It is a curious question, and worthy of the most profound investigation, whether the poison can be produced in various and distant places, barely by a concurrence of the meteoration with the other materials, from which the infection is formed, without the introduction of the morbid poison from a foreign source, to act as a kind of leaven. *It is certainly probable that this is generally the case.*"

Now, it seems hardly necessary to combat Dr. B.'s doctrine, of the infectious nature of cholera, as he so successfully refutes it himself. The reader will observe that *one* such instance, (as referred to by Dr. B.) fully proved, would be sufficient to overthrow his hypothesis; but Dr. B. himself admits that meteoration *generally* causes the disease, "without the introduction of any foreign morbid poison!" After these admissions, it is altogether useless for the author to argue "*that cholera would not, in many instances, have appeared, had not the infection been introduced.*" This cannot be shown, and if it could, as he has



admitted the necessity of meteoration as a *concurrent cause*, he has no right to claim precedence for his infectious matter. We believe it would be more philosophical, and more in accordance with facts, to make the infection, (if such exists,) the concurrent cause, and especially after having expressed the opinion that *as a general rule*, the meteorations cause is the efficient one. We put it to our friend himself to decide. But he does decide.

"It is doubtful," he remarks, "whether the poison could be multiplied even by the introduction of some of the infection from other places, unless there should, at the same time, exist this peculiar meteoration. This is not idle speculation," &c. p. 18.

And now, after these concessions, how illogical is the conclusions which Dr. B. arrives at.

"From the foregoing considerations, and other reasons that might be advanced, we are compelled to conclude that pestilential cholera is not properly *and independently of the operation of a specific infection*, a meteorations epidemic!"

If this is not a *non-sequitur* from the doctor's own premises, then we know nothing about logic. The only way in which the writer attempts to reconcile his deduction with his premises, is by supposing that many of those cases which have been considered as cholera, were not cholera, and especially those which have arisen under "unusual circumstances of temperance, seclusion, and in cleanly habitations, remote from all apparent local causes." In other words, all cases of premonitory diarrhœa and gastric disturbance, so universally experienced during the prevalence of epidemic cholera, do not partake of the same character, and consequently never terminate in it.

How can we account for the numerous instances in which the crews of vessels, and among others of the U. S. Frigate Constitution, have been invaded with cholera far out at sea, and without having communicated previously with a port where the disease prevailed? Where was the infection here?

Dr. Bowron next examines the testimony, which in his opinion, "conclusively establishes the doctrine that cholera is an infectious complaint." Infection he defines in the language of Professor Smith, "a febrile agent, produced by the decomposition of animal and vegetable substances." In this form it occurs, we are told, in "filthy houses, ships, jails, hospitals and cities, and that we can demonstrate the existence of this miasm in *almost* every place where cholera has prevailed." Granted. But will, or will not, the decomposition of animal and vegetable matter produce cholera? There can be but a single answer. If such were the case, we should always have cholera in our cities, during the summer months. Here the doctor has to bring in meteoration again, which is yielding the point for which he is arguing. It is not enough to prove the existence of miasm. Was it this, that made cholera so fatal in Russia, during the cold winter of 1830-31.

But we shall not argue this question. That cholera is a meteorations disease, is self-evident, and therefore hardly requires proof. But, at the same time it is true, that it is rendered more malignant and fatal by various accidental circumstances, such as filth, impure air, intemperate habits, mental emotions, and other *debilitating causes*; but whoever thought before of making these collaterals the primary cause itself? A person under the influence of these sedative agents, is not only in a greater degree predisposed to the disease, but he is also more



liable to be violently affected by the same cause, than an individual not exposed to such agents. In this manner, we can readily account for those cases, which have been attributed to infection, &c. on the supposition that the disease is meteorations.

The remaining pages of this pamphlet are occupied principally in detailing the evidence of the existence of malaria in many places where cholera has prevailed. All these we admit, and many more facts of the same kind could be adduced. But they are far from establishing the doctrine for which the doctor contends; and they only prove that certain extraneous causes powerfully aid in the development of the disease. Notwithstanding, however, the animadversions which we have felt it our duty to offer, we have a high regard for the author's zeal and talents, and trust that they will long be employed in the advancement of medical science.

C. A. L.

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XV. *A Catechism of Medical Jurisprudence; being principally a Compendium of the opinions of the best Writers upon the subject. With a Preliminary Discourse upon the Importance of the Study of Forensic Medicine. Designed for Physicians, Coroners and Jurymen.* By STEPHEN W. WILLIAMS, M. D. Late Professor of Medical Jurisprudence in the Berkshire Medical Institution; Fellow of the Massachusetts Medical Society, &c. Northampton, 1835. pp. 205. 12mo.

A popular manual of Medical Jurisprudence has been much wanted in this country, and we therefore felt great pleasure when the present volume was placed in our hands, entertaining the fullest expectation, from the high and responsible station so long occupied by the author, and from the strong recommendations appended to his work, that this desideratum would be amply supplied. We regret, however, to be obliged to say, that we have been greatly disappointed. This disappointment may have arisen in part, from our entertaining an erroneous conception of the object of medical jurisprudence,—which the author states, “is to point out to the physician those cases of real or supposed crime, on which he may be called to give his professional evidence in a court of justice,”—and also of what constitutes “the principal facts in the science, which may be wanted in judicial examinations;” partly from our misapprehending the author's views in many cases, his text being often extremely obscure; and partly from our attaching some value to the splendid discoveries in chemistry, and the advances made in medico-legal science within the last twenty years. To enable our readers, however, to draw their own conclusions on some of these points, we will subjoin a few of the many passages we have noted on a hasty perusal of the work, which we think will enable them to judge whether or not it can be relied on as a guide in judicial examinations.

The definition of *sudden* death, viz. “the death of a person, either from some apparent cause, or not, which has no connexion with personal interference,” applies to all cases of natural death, whether sudden or otherwise, and is therefore manifestly inaccurate.

The author has committed a strange blunder or inadvertence in his definition of *felo de se*, in making suicide and felony synonymous terms; now, although by the English law suicide is a felony, it by no means happens that every felony is a suicide.



In speaking of the Cæsarian section, the author, after stating that this is to be performed when the mother dies in labour and undelivered, in order to preserve the child, goes on to say, that we ought to be absolutely certain that the woman is really dead, and gives as a criterion of this, the occurrence of putrefaction and decomposition. Now, we would ask, what chance exists of saving the child, if the appearance of these chemical phenomena be waited for? The operation, to effect the desired end, we have been taught, must be resorted to, as soon as possible after the decease of the woman.

But this is not all; in the next question he asks, "if a woman die in parturition, what are the signs by which we can determine that the child is dead?" which he answers as follows:—"Recession of the milk—flaccidity of the breasts—coldness of the abdomen—mechanical weight of the uterus—want of motion in the child—fætor in the room of the patient—fætor of the discharges." Now, these may be excellent guides to a correct determination, during the lifetime of the woman, but how they can be such in a corpse, it is for the author to explain.

*Rape.*—The author states, that to constitute a rape, emission as well as penetration must be proved. This is not the case in many of our states, and even in England, where the laws are much more severe as regards this crime; it is a question *ad huc sub judice*. The author also decidedly affirms, that a rape cannot be committed on a female, except she be under the influence of narcotics, or that three or four persons be engaged in restraining her. This is going too far, for though it may be taken as a fact, that a female cannot be violated, in the true sense of the word, unless her powers of resistance be completely overcome; numerous instances are on record, where this has been effected by one man, as females have been incapable of resistance from fear, from debility, &c. Dr. Williams also thinks that it is unlikely that pregnancy would ensue on a rape, as the lust of the woman was not excited. He is here at variance with a majority of the profession, who are decidedly of opinion that conception has nothing to do with the volition of the female; at the same time it should be stated, that his views are supported by general prejudice, and by some esteemed writers, as Farr, &c.

*Pregnancy.*—We are unable to comprehend the meaning of the following question and answer. "In what cases is it difficult to determine between amenorrhœa and pregnancy in prostitutes?" Unless indeed he means that a cessation of the menses is a more uncertain symptom of pregnancy in them, than in other females. But the answer to the question, of "how are we to determine when a woman is in labour" is still more defective, viz. "a woman cannot be delivered without great pain. No one can counterfeit labour pains, nor conceal them when felt, &c." Now, every practitioner of midwifery must have met with cases where females have suffered but little pain during labour, and every work on infanticide contains records of cases where the existence of this phenomenon, even when attended with great pain, was unsuspected by persons living in the house.

We shall conclude our quotations and remarks with the section on *Poisons*, as in this the greatest accuracy and precision is requisite, and we are sorry to find that it is far from fulfilling these conditions.

The author first defines poisons to be "substances which, being taken in the



stomach in small quantities, are capable of destroying life," and on the next page states, that they may be introduced into the system, by the nostrils, mouth, lungs, anus and skin. The answer to the question, "in what state are metals most poisonous?" viz. "in the state of an oxide," and to that "what is the cause of the causticity and poison of a metal?" viz. "oxygen combined with it;" are defective, and calculated to give very false impressions. Had the first answer been, in the state of oxides and the salts of those oxides, it would have been more consonant with the true state of the case: as regards the answer to the latter question it is erroneous, as the oxides of many metals are neither caustic nor poisonous.

The directions for removing the stomach for the purpose of a chemical examination of its contents, are also erroneous, as they order the stomach to be taken out, and then its orifices to be secured by ligatures, instead of this latter operation preceding the former. The morbid appearances produced by arsenic, instead of being described from Christison, or other late and standard authors, are quoted from Dease, one of the worst authorities that could be selected on the subject of poisons, and are not to be depended upon. But what is still more extraordinary in a work which professes to "obviate the necessity of resorting to more voluminous works," no test for arsenic is given, except that of the chromate of potash, as recommended by Cooper.

In speaking of mercury, the author enumerates turpeth mineral as one of the oxides or chlorides of this metal, whereas it is a deuto-sulphate.

We were for a long time greatly perplexed with the following question and answer, "what (are the antidotes) for the other mineral poisons? *Answer.* Nearly the same as for arsenic. The sulphates of soda and magnesia are the chief antidotes." Now as the *other* mineral poisons includes nine-tenths of the metallic salts and oxides, and all the alkaline earths, we could not understand how those sulphates were to act; but on referring to Male's epitome, from which much of the section on poisons is copied, we find that this author refers to the carbonate and muriate of barytes, for which these salts may prove a good antidote. In speaking of the treatment for an over-dose of opium, the author, after placing the most efficient, namely, the stomach pump at the foot of the list, advises among other things vinegar and lemon juice; now both these articles, if taken whilst the opium is in the stomach, cannot fail of aggravating the evil, as they will unite with the morphia, and form a citrate or acetate. After the complete removal of the poison, there is no doubt that they are extremely grateful to the patient, and tend to allay the irritation of the mucous membrane; what we object to, is, advising them as remedies to counteract the poison.

The section on wounds contains much in which we do not agree with the author, but we shall merely notice the following. Among his diagnostics of wounds penetrating the thorax, is—"no air being discharged by any means, by the return of liquors being injected warm when the body is placed in the same posture, as it was when it received the wound"—we confess we are at fault, except he alludes to wounds of the thorax after adhesive inflammation of the lungs had taken place, or to wounds of this part not implicating the lungs. He next states that emphysema takes place, from the wound in the lungs being of small size, and entering in a *direct* line; any comment on the latter clause of this explanation would be superfluous.

But we have pursued our painful task to a greater length than we at first in-



tended, but the questions discussed are of so much importance, and the consequences that might result from an implicit reliance on some of the precepts inculcated are of so serious a nature, that we have felt it to be an imperious though an invidious duty to endeavour to point out what we consider to be errors of fact as well as of doctrine.

R. E. G.

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XVI. *The American Cyclopaedia of Practical Medicine and Surgery; a Digest of Medical Literature.* Edited by ISAAC HAYS, M. D. &c. &c.

The sixth number of this interesting work was issued in January. It appears that the enterprising publishers have not been able to furnish the numbers as regularly as was anticipated, in consequence of the many difficulties that necessarily attend the commencement of a work of great magnitude, in which many authors are concerned. If, however, we are induced to complain of this delay, we are at the same time constrained to acknowledge that the additional interest given to the work by the well executed illustrations, and the better opportunity it affords for elaborating the articles, fully compensates for this tax upon our patience.

It is not our intention, on the present occasion, to notice in detail the articles contained in the number before us; but in announcing its publication, we would merely call the attention of our readers to some of its most important articles. The contributors to this part of the Cyclopaedia are Drs. G. B. Wood, R. E. Griffith, R. Coates, E. Geddings, F. Bache, S. Jackson, and the editor.

Dr. Wood is so well known as a writer on materia medica that it seems unnecessary for us to commend the articles bearing his signature. They display considerable research, and are generally written with that regard to system and accuracy which the present state of our science requires. He is the author of Angustura Bark, Anime, Anodynes, Anthelmintics, Anthemis, Antilethics, and Antispasmodics.

Anise, and Antirrhinum, by Dr. Griffith, Anthropology, by Dr. Geddings, and Antiphlogistics, by Dr. Jackson, are very concise and neat articles.

The articles Ankle, Anthrax, and Anus, are from the pen of Dr. R. Coates; and are highly creditable to their author, particularly the elaborate articles Ankle and Anus. Dr. C. has given us a full exposition of the present state of our knowledge upon these interesting subjects. We have devoted no small portion of our time to anatomical studies, and therefore read this part of his labours with especial interest, and we have no hesitation in declaring that we have never met with accounts of the surgical anatomy of the ankle joint, and of the anus so satisfactory as those which Dr. C. has given us. The style in which these articles are written, though occasionally abrupt, is precise and perspicuous.

The "mechanism of the injuries of the ankle" is a most interesting and well written section. It describes, in a clear and simple manner, the complex motions of the foot upon the peroneo-tibial and tarsal articulations. Until recently the study of the mechanism of the joints, and their moving powers, has been too much neglected by surgeons. If more attention had been paid to this subject, we should not have been so often misled by the discrepancies of surgical writers. Dr. C. has fully appreciated its importance.



Fractures of the ankle are ably disposed of. Under this head we find some original and important suggestions. We are particularly pleased with the author's criticisms on the apparatus of M. Dupuytren, for the treatment of fractures of the fibula near the ankle joint. He alludes to a case which came under his own observation, in which the freedom of abduction and circumduction was impeded by retaining the foot in a state of strong adduction. We believe this course is recommended by most surgeons. It is particularly enforced by Dupuytren. There are other points of interest which we might dwell upon, but we must conclude our remarks upon this article with a slight notice of the section on dislocations. In studying these accidents, every surgeon must have experienced embarrassment, in consequence of the confusion in their terminology. Scarcely two surgeons use the same language in describing a dislocation of this joint, and it is still more embarrassing that the same terms are used by different surgeons to describe accidents the very reverse of each other. To remedy this confusion, Dr. C. has suggested a terminology which appears to us preferable to any in common use. It states, in simple terms, the precise character of the injury, and to prevent all misconception, the synonyms are appended. For some interesting views of Dr. C. on the treatment of dislocations of the ankle, we must refer the reader to the text.

Anthrax is a short and interesting article, and presents a correct summary of the pathology of this disease. We agree with Dr. C. that "the days have passed when surgeons endeavoured to explain the obstinacy and fatal effects of these tumours, on the supposition that they result from a peculiar malignant virus in the system;" and taking this view of the subject, the general principles which guide us in the treatment of all local inflammations should never be forgotten. It seems that Dr. C. has, in some measure, done this, in not insisting more strongly on the importance of antiphlogistics. We are aware that most writers consider anthrax to be invariably attended with a state of system that renders general blood letting out of the question; but in this disease, as in all others, we are to be guided by the peculiarities of each case, and leeches, as a means of local depletion, appear to us to possess more value than Dr. C. has ascribed to them. We believe with Polinière, that when judiciously timed and properly applied, they constitute an important adjuvant in the treatment of anthrax. They cannot fail to be highly serviceable in those cases in which inflammation continues after free incisions have been made in the tumour to divide the reticulated structure of the dermis, and thus relieve the strangulation which gives this disease its peculiarly obstinate and dangerous character. The leeches should, in all cases, be applied around the tumour, and not directly upon it. This remark is of much importance; it is applicable to most, if not all, local inflammations. In the subsequent part of this article, we find the opinions of Dr. Physick quoted at some length. They will be read with much interest.

The article Anus, we think, no one can read attentively without becoming familiar with the anatomy of the anus, and the relative position of all its parts. This is a much more important and difficult study than is generally imagined, and we are glad to find that Dr. C. has treated the subject in a comprehensive manner. The relative position of the external and internal sphincter ani muscles, their points of greatest constriction, the peculiar arrangements of the



longitudinal fibres of the rectum, the sacculi of Professor Horner, the columns of the rectum, and some other minor points, are very prettily illustrated by drawings.

The following account of Professor Horner's important additions to our knowledge of the terminal arrangement of the longitudinal fibres of the rectum, and of the sacculi of the anus, will be read with much interest; and may serve to show the manner in which Dr. C. has elucidated this part of the subject:

Fig. 1.



A vertical section of the Parietes of the Anus, passing through the middle line of one of the columns of the Rectum, and the neighbouring parts.

C. The Internal Sphincter, with its arched fibres transversely divided.

D, D. The plane of arched fibres of the muscular coat, similarly divided.

E. The point of greatest contraction of the internal sphincter.

F. The External Sphincter.

G. The point of greatest contraction of the same muscle.

H. The plane of longitudinal fibres of the muscular coat, longitudinally divided. i. Some of these fibres terminating in the internal sphincter. k. Others, terminating in the external sphincter. l. The remaining longitudinal fibres, collected into a semi-tendinous fasciculus, passing over the lower margin of the internal sphincter, to be reverted upward within the duplicature of the column. m. These reverted fibres again becoming muscular, and terminating in the mucous coat.

L. The mucous coat. n. A bristle in one of the sacs. It is obvious that this arrangement gives these fibres the power to draw down or even revert the base of the columns, and a portion of the mucous coat of the rectum, thus explaining more fully the real nature of prolapsus ani; especially that species of it which occurs most frequently in childhood. A similar structure is obvious in the horse and other animals."

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"d. *Sacculi of the Anus.* The venerable Emeritus Professor of Anatomy in

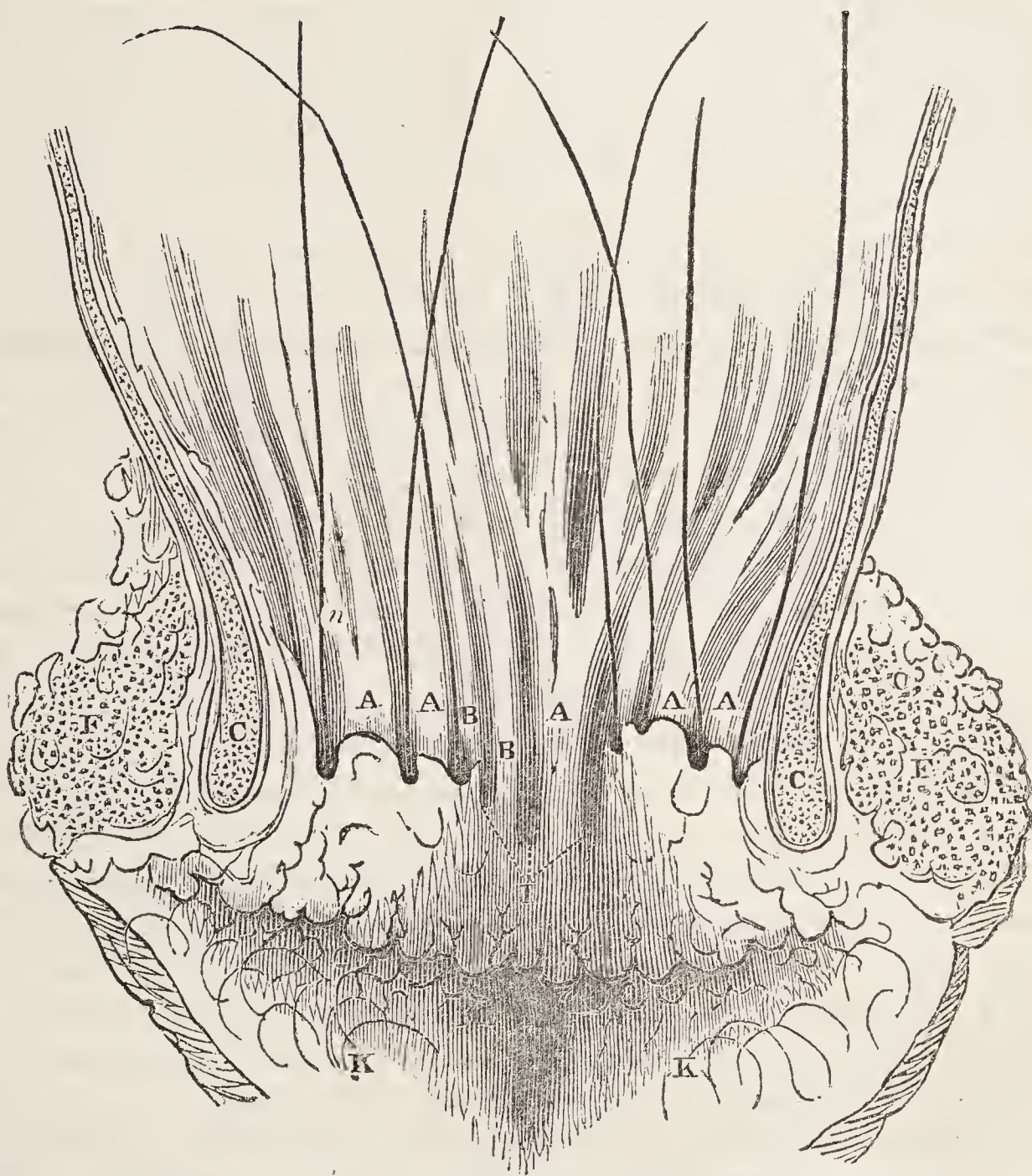
"The *longitudinal fibres of the rectum* have been heretofore described as partly terminating in the superior margin and the outerface of the internal sphincter, (*fig. 1. i.*) and partly continued over that face to be lost in the external, where it overlaps the internal sphincter, (*fig. 1. k.*) Some of these fibres do indeed terminate as described, particularly at the latter spot, but Dr. Horner has succeeded in tracing others of these fibres much farther. Very many of them begin to lose a portion of their muscular appearance as they approach the lower edge of the internal sphincter, assuming somewhat the aspect of tendons; they are here gathered into numerous small fasciculi, the fibres of each fasciculus seeming to adhere to each other, until they double beneath the edge of the internal sphincter, which they appear to employ as a trochlea to revert the direction of their motion (*fig. 1. l.*) and are reflected upward on the mucous membrane. At this point, (i. e. where they are reflected upward) they are collected into groups, one corresponding with the base of each column of the rectum; to which it adheres pretty closely in its passage. Each group then pursues its course upward in the duplicature of the column; but it speedily resumes its muscular aspect, the fibres being rapidly displayed as they advance, until they are finally inserted into the mucous membrane, sometimes as high as an inch and a half or two

inches above the inferior edge of the sphincter internus, (*fig. 1. m.*)



the University of Pennsylvania, had been in the habit of noticing in his former annual course of surgical lectures, a peculiar condition of the anus, in which there exist certain well-defined pouches or sacs within the canal, which, by occasionally arresting small portions of fæces, or minute foreign bodies, give rise to great inconvenience, and demand the performance of a peculiar operation for the relief of the patient. (See Art. III. § 12.) Dr. Horner, in prosecuting some examinations, post mortem, with the view of elucidating this subject, was surprised to find a series of semilunar valvules, within the canal, such as have been hinted at, by certain anatomists, as an occasional occurrence, but the existence of which has been repeatedly denied by others. His attention being once fairly called to this structure, Dr. Horner discovered these valvules in every body which he examined for the purpose, and therefore draws the legitimate conclusion that they are normal and constant. The following description is drawn from the appearances presented by four different preparations, taken promiscuously from a considerable number which the Professor did us the favour to submit to examination, and the accompanying figure has been executed from one of them.

Fig. 2.



A vertical section of the anterior parietes of the anus, with the whole canal displayed so as to show the relations of the sacculi of the middle region, and their relations to the surrounding parts, their orifices being marked by bristles.

A, A. Columns of the Rectum. B, B. Rudiments of Columns. C. Internal Sphincter. F. External Sphincter. I. Rudimentary or Imperfect Sacculi. K, K. Radiated folds of the skin, terminating on the surface of the nates.

n. A bristle in one of the sacs.

Immediately below the margin of the internal sphincter we find a series of membranous pockets or sacculi, corresponding in number with the grooves between the columns of the rectum, one of which grooves is directed towards,



and terminates in, each of the culs-de-sac. On the outer side, the sacculi are lined by the mucous membrane of the grooves, prolonged into the intervals of the hemispherical eminences already noticed, but which are not sufficiently distinct, after death, to be well represented in a drawing from nature. Internally, or on the side next the canal, the sacculi are completed by portions of loose membrane, which are processes from the reverted integuments lining the canal below. Each of these loose portions is attached at either end to the base of one of the columns of the rectum, and its free margin hangs in a curve between these points, thus forming a purse with the mouth presenting upwards, and resembling, in some degree, one of those formed between the valves of the aorta and the parietes of that vessel. Unlike the sacculi said to be sometimes formed by the intersection of the transverse and longitudinal folds of the rectum near the upper part of the anal canal, these pockets may be compressed, but cannot be obliterated by the distention of the anus. Their number, form, and position must necessarily vary, with those of the columns and swellings, which give them attachment; and, like the columns, some of them are frequently rudimentary. The upper margins of these pockets, taken collectively, appear to form the festoon mentioned by Cruveilhier as the termination of the cuticle."

Dr. C.'s exposition of the physiology of the anus is worthy of commendation. We have heard it said that the anatomical and physiological parts of this article are unnecessarily minute in some of their details; but it is the neglect of minuteness and a fondness for generalizing, that has involved our science in such obscurity; and facts, however simple, are as essential to refute opinions as to establish principles. Whilst we adhere to facts, we cannot be too "microscopical." Dr. C. has dwelt at some length upon the physiological characters of the two sphincters. He has evidently paid much attention to this part of the subject, and has elucidated the distinctions that exist between those muscles in a clear and satisfactory manner.

Under the head of Pathology of the Anus, Dr. C. has confined his observations "to such diseased appearances as take their name from this region, in which they are wholly or partly seated." The article embraces Neuralgia, Spasm, Atony, Injuries, Prolapsus, Inflammation, Blenorrhagia, Organic Stricture, Tumours, Ulcers, Fissure, Preternatural Pouches, Abscess, and Fistula of the Anus. Dr. C. has performed this part of his labour with the same analytical method that we have noticed in the anatomical and physiological divisions of this article.

Dr. F. Bache is the author of Antidote and Antimony. The clear and systematic manner in which these articles are written is particularly worthy of praise. He has given a succinct account of the "different recognised antidotes," and refers for further details to the particular poisons for which they are respectively administered. Antimony is a long and interesting article. The chemical history and important pharmaceutical preparations of this metal are described with much accuracy. In treating of the effects of antimonials on the system, and their therapeutical applications, we think we can say that Dr. B. has done justice to the importance of the subject, though we might be disposed to question the correctness of a few of his views relative to the *modus operandi* of antimony, and its value in some morbid conditions in which he has recommended it. We have been particularly pleased, that Dr. B. has followed the analytical and only available method of arriving at correct therapeutical knowledge. After giving some general remarks upon the effects of antimonials as a class, Dr. B. treats of their effects upon most of the important



systems, tissues, and organs of the body; the influence of the diet and regimen employed during their administration; and the modifications of their action resulting from age and sex. He then treats of the individual antimonials as therapeutic agents. This section displays considerable research. Dr. B. dwells at some length on the remedial effects of tartar emetic; his account of its contra-stimulant use is interesting. This article is concluded by a highly judicious section on the Toxicological Effects and Tests of Antimonials.

The articles in this No. by the editor are all short but well written. They constitute the filling up, as it is called, a most laborious work and one too frequently neglected, but upon which Dr. Hays has bestowed much attention. Most of the medical terms are defined with perspicuity; they are, as far as practicable, deprived of those unmeaning definitions that too often confuse the learned and dazzle the ignorant.

F. T.

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XVII. *Des Diverses Méthodes et des différens Procédés from l'obliteration des Artères, dans le Traitement des Anévrismes; de leurs Avantages et de leurs Inconvéniens respectresses.* Par J. LISFRANC, vice-President de l'Academie Royale de Médecine, Chirurgien en chef de La Pitie, &c. Paris, 1834. pp. 152.

It is not always that we say least where we are least pleased, and if our notice of this work of M. Lisfranc is very short, it is because we have little fault to find with it, and because it should be read throughout, in order that its merits may be weighed.

It is a complete monograph of the subject on which it treats, and contains very little matter that is foreign to the purpose in view. After some preliminary observations on the nature of aneurism, and the proper limitation of the signification of the term, the author proceeds to the history of the various operations employed in the treatment of this disease, overthrowing the claims to originality of some supposed inventors, and giving additional proof of the truth of a well-known adage of Solomon. He then takes up in detail all the various methods that have been employed from the days of the Greek physicians to the present time, examining the advantages, disadvantages, and applications of each method. We are happy to observe that full justice is done to the experiments of the two American authorities who have made or attempted improvements in the construction of ligatures, but we may remark that his selection of instruments for the application of ligatures, is not such as would meet with general approbation here. This subject, however, is only glanced at collaterally.

In endeavouring to account for the greater frequency of consecutive hemorrhage in cases of operations for aneurism, when compared with those which follow amputations, M. Lisfranc suggests the probability that the ligature of the collateral branches, and the consequent arrest of the circulation to a greater distance along the principal trunks of the vessels, in the latter class of operations, may give additional security to the coagula, which form the barrier against hemorrhage. We have had occasion to remark, in former numbers of this journal, that few surgeons in this country apply very numerous ligatures in cases of amputation, yet secondary hemorrhage is an exceedingly rare occurrence; is it not more reasonable to suppose that the difference mentioned is the result of incipient morbid changes in the coats of aneurismal vessels extending beyond



the limits of the tumour? We are compelled also to differ from M. Lisfranc in his preference for large ligatures of thread, over fine ones of silk. The author supposes that the latter, by pressing on a smaller surface, causes a more rapid separation of the cellular coat of the vessel, thus diminishing the security of the coagulated plug; but this supposition is scarcely tenable by physiological reasoning, and no facts are brought to bear upon the question. It is not the extent, but the violence of the constriction, that determines the rapidity of separation. Now the ligature should always be sufficiently tight to destroy the circulation in the parietes of the vessel, or the object of its application is not attained, (for the method by flat ligature advocated by Scarpa, is condemned by M. L.) If death of the part is thus produced, the vital injury cannot be increased by additional tightness, and the absorbents can separate an inch of the dead tube with as much rapidity as a line, for they act in either case, only on the living margin of the sound part of the canal, which is not rendered at all more extensive by an increase in the bulk of the ligature.

The work under notice, concludes with an ample series of tables, in which are given an abstract of all the cases of operations for aneurism, with which the extensive researches of the author have provided him. In these tables we find under separate heads the result of the several peculiar operations, and in distinct columns, references to the work in which each is contained, the name of the surgeon, that of the patient, the age, the nature and location of the disease, the manner of operating, and as far as could be ascertained, the occurrence of hemorrhages, other accidents, the date of the detachment of the ligatures, and the issue of the case. The treatise contains a great body of important facts, and although the high standing of M. Lisfranc as an operative surgeon makes it almost unnecessary, we cannot conclude without recommending the work in the highest terms to all who would obtain a rapid, concise, and full view of the surgical treatment of aneurism.

R. C.

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XVIII. *Transactions of the Medical and Physical Society of Calcutta.* Vol VI. Calcutta, 1833, 8vo. pp. 509.

The published Transactions of the Calcutta Medical and Physical Society, the sixth volume of which now lies before us, are, generally speaking, of a highly interesting character—many of the papers comprised in them acquire an additional recommendation from their value in a practical point of view.

To the physicians and surgeons of India are afforded opportunities for the successful investigation of many important diseases, of which they have been by no means negligent in availing themselves. Though we cannot always accord with them in the correctness of their pathological views, nor acknowledge in every particular the correctness of their plan of treatment, we nevertheless feel a pleasure in giving them credit for many and important contributions to our stock of medical information.

We have not sufficient space, on the present occasion, to notice particularly the different papers contained in the volume before us, much less to allow of a proper analysis of them. We shall therefore merely point out as particularly interesting, in addition to the accounts of the medical topography of different sections of India, by Dr. Mouat, and Surgeon Leslie, the paper on the variety



of East India opium, with tables of analysis of the drug produced in various parts of the country, and a detail of the Chinese mode of preparing it, by Dr. Smyttan, which contains many particulars of no little importance to the pharmacist. Also the remarks on malignant ulcer and hospital gangrene, by Surgeon Geddes. The account of the Bronchocele, or Goitre of Nipal, and of the Cis and Trans-Himalayan regions, by Surgeon Bramley, is likewise an excellent paper. The disease is stated by this gentleman to prevail extensively, and so far as regards external appearances, to resemble precisely the same affection observed in Europe. It is met with over every habitable part of the Himalayan range, and at an elevation not less than seven thousand feet above the level of the sea. It is less prevalent in some parts, however, than in others. There are some towns and villages where bronchocele is never known to occur very commonly, though the people who dwell in their immediate vicinity may be particularly liable to it. In regard to the causes of this affection, the facts collected by the writer are negative, tending to show that they do not consist in any peculiarities of food, water, or any particular state of the atmosphere; they by no means point out, however, the true causes of the disease.

The article on the efficacy of vaccination in India, by Surgeon Mercer, confirms the importance of the Jennerian discovery, as a prophylactic against small-pox. On the use of the liquor ammoniæ puræ in cholera. By Surgeon Steart. By this gentleman thirty drops of the pure liquor of ammonia, diluted with three and a half drachms of distilled water, and a few drops of any essential oil, are directed to be given, and if rejected by vomiting, the same quantity is to be repeated until the article remains upon the stomach; eight or ten minutes after which, we are informed, "the patient will be certain of recovering."(!) The remedy is to be repeated at intervals of five, ten, or fifteen minutes, according to the state of the patient; but the moment reâction has commenced, the quantity is to be lessened. Heat is to be applied to the body in every possible way, and one or more veins are to be opened, and the efforts to procure a flow of blood are to be persevered in, until reâction has fully commenced. Of the success of this treatment the writer speaks in the most decided terms.

*Observations on some of the Effects of Iodine by Surgeon Twining.*—The effects alluded to are the injurious action of the article upon the liver.

*On Ligature of the Carotid Arteries in Epilepsy and some other Diseases by Surgeon Preston.*—The only non-epileptic case noticed in the present paper, in which ligature of the carotids was beneficial, is one of head-ache and partial paralysis.

*Case of Tetanus following a Punctuated Wound in the Foot Cured by Division of the Posterior Tibial Artery by Dr. Murray.*—In this case the attack of tetanus was very early, and the progress of the symptoms rapid.

"I have no doubt, remarks Dr. M. that it would soon have run its course to a fatal termination, if it had been left to the sanative powers of nature alone, or treated in the usual manner; but very little time was lost in having recourse to the operation, which proved a remedy of immediate and effectual power, after the disease had decidedly formed."

We refer to the quarterly summary of our twenty-seventh, and the present number for additional notices of the contents of the present volume of the Calcutta Transactions.

D. F. C.



XIX. *The Principles of Diagnosis.* By MARSHALL HALL, M. D., F. R. S. London Edition, etc. Second edition, entirely re-written. New York, 1835, 8vo. pp. 463.

Diagnosis or semeiology constitutes one of the most important branches of pathology. To discover and accurately distinguish, by the symptoms, the seat, nature, extent, and progress of the morbid lesions which exist in any given case, being essential to the establishment of a rational and successful plan of treatment. The practical bearing of the doctrines of pathology are, in fact, restricted almost solely to the correctness of the diagnosis which they afford us.

The symptoms of disease have been aptly styled the language of the suffering organs, and it is impossible to determine the actual condition of the latter—equally vain to attempt their restoration to health, unless that language be well understood. Each symptom that presents itself must be referred to the particular function, by the lesion of which it is produced, and its value estimated by a careful inquiry into the nature and seat of the morbid action upon which such lesion is dependent. Due attention must be paid, at the same time, to the increase, diminution, and other modifications of existing symptoms, the occurrence of new ones in the progress of the case, or the entire disappearance of one or more of those previously noted; while these changes in the external indications of disease are to be cautiously traced to their true causes—the modifications, namely, which take place in the morbid conditions of the internal organs. These important particulars are embraced in the science of diagnosis. It will be perceived, therefore, that the study of the latter is most intimately connected with that of the general principles of physiological pathology; and it appears to us difficult, if not impossible, to separate successfully the consideration of the one from that of the other. It is certain, that every attempt which has heretofore been made to treat of diagnosis as a separate branch of medical philosophy must be considered as a failure; nor do we conceive that the work of Dr. Hall is to be viewed as an exception.

Although, in many particulars, it constitutes, unquestionably, a useful manual for the student, as well as practitioner of medicine, it does not, in our opinion, present such a system of diagnosis as the present state of our science would seem to demand. It does not, in fact, always answer fully the very object for which it is intended—to point out, namely, from the symptoms, the character, degree, and seat of the existing disease. It is not sufficient, in order to lead to a correct diagnosis, to group, as Dr. H. has frequently done, certain symptoms together, with the vague remark, that they are those which generally accompany this or that disease of a given organ—without determining the order of their occurrence and whether they are directly or only indirectly dependent upon the morbid state of that organ. Such a diagnosis as the following, which Dr. Hall gives as that of acute inflammation of the mucous coat of the stomach, will certainly admit of a very limited practical application.

“Pain, or weight, or dragging, in the region of the stomach, very shortly after eating, and after taking the mildest medicines, sometimes amounting to a paroxysm of suffering, and only terminated by vomiting, and recurring after each repetition of the cause. With these symptoms there are debility and emaciation.

“Similar symptoms have appeared to me to arise from inflammation of the



duodenum, with the addition of icterus, and a tender and somewhat enlarged condition of the liver.

“The morbid anatomy of this affection is unknown, but it probably consists in injection or softening of the mucous membrane.”

Independently of the general vagueness of most of Dr. Hall's diagnosis, the correctness of many of them will admit of very considerable dispute: while the value of the different morbid phenomena discovered after death, by dissection, in reference to their connection with the symptoms observed during the lifetime of the patient, is very seldom if ever inquired into.

The arrangement of the present treatise is perhaps not the most judicious that might be adopted. But one of the leading faults which it exhibits consists in its propositions being of too general a character; those details which are essential to a correct understanding and practical application of them being entirely overlooked. Take for instance his diagnosis of inflammation accordingly as it is seated in the serous, mucous, and parenchymatous tissues.

“Inflammation of the serous membranes is distinguished principally by *two* events: 1, the almost entire absence of heat of surface, debility and tremor of the muscles, the aching pains, the affection of the head, and the hurry of breathing, observed in fever; 2, by extreme tolerance of loss of blood.\* There is generally acute pain.

“The morbid anatomy consists principally of the effusion of lymph and the effusion of serum.

“In inflammation of the mucous membranes, there is more of febrile symptoms, less pain, and less tolerance of the loss of blood, than in mucous inflammation,—there is the augmented secretion of mucus.

“*Morbid anatomy*.—The mucous membranes are far more apt to ulcerate than the serous: besides ulceration, there is usually a morbid secretion of mucus, and frequently the effusion of blood.

“The symptoms of parenchymatous inflammation are, in some respects, intermediate between those of serous and mucous inflammation; but they approximate far more to the former than the latter. There is less pain; but there is little less tolerance of loss of blood.

“The morbid anatomy consists, generally speaking, in hypertrophy and induration; but other changes are observed, which are peculiar to individual organs.”

Were we inclined to enter into a full critical examination of the work before us, we should be obliged to present many other exceptions to the manner in which the author has treated of the Principles of Diagnosis. At the same time it affords us pleasure to add, that the work possesses a very large amount of excellent practical matter. The task which the author has undertaken is unquestionably one of considerable difficulty, requiring for its faithful performance great talents, combined with a fund of information which can be derived only from extensive practical experience. To complete it, however, in a manner which shall be the most useful to the medical student, requires, we conceive, that it should not be separated from the details of general and special pathology.

Notwithstanding the beauty of the present edition of Dr. Hall's work, so far as it regards its mechanical execution, it is marred by several gross errors of typography.

D. F. C.

\* “The degree of tolerance of loss of blood depends upon two circumstances: 1. the disease must be formed; 2, it must not have induced havoc of the powers of the system. It must neither be merely incipient nor inveterate.”



XX. *Dissertatio Inauguralis de Dentitione Infantali, cum Adjuncta Disquisitione de Spasmis et Antispasmodicis, quam pro Summis in Arte Medica Honoribus rite Obtinendis Publice Defendere Studebit.* Auctor FREDERICUS ADOLPHUS ULDALL, Medicinæ Licentiatus, Chirurgiæ Candidatus. Hauniæ, MDCCCXXXIII. 8vo. pp. 93.

*An Inaugural Dissertation on Infantile Dentition, to which is annexed a Disquisition on Spasm and Antispasmodics.* By F. A. ULDALL. Copenhagen, November, 1833.

This is a well-digested and highly interesting treatise on difficult dentition, and the various morbid phenomena to which it so frequently gives rise. The pathological views of the author, being based upon the observations of the most authoritative writers of the present day, are in general correct, while the preventive and curative measures which he lays down, are extremely judicious.

By most of the older writers on the diseases of infancy, the nature and production of these morbid phenomena, which are so apt to occur immediately preceding, or during the period of dentition, were but imperfectly understood, and hence the plan of treatment which they recommend for their removal, is either empirical, or, in too many instances, decidedly improper.

More correct views of the physiology of the different organs of the body, their condition at that period of life when the teeth are about to pierce the gums, and the reciprocal influence which one organ exerts over another during its normal state, or when labouring under any undue irritation, have thrown no inconsiderable light upon the diseases incident to dentition, and has directed the physician to more rational and certain means for their prevention and removal.

It is unquestionably true, that in many instances the production of disease is erroneously ascribed to dentition. It would, however, be going too far, were we to deny the facility and frequency with which, under particular circumstances, the irritation induced in the gums by the evolution of the teeth, is propagated to the digestive mucous membrane, or the brain, and in this manner becomes the cause of very serious mischief. Under all circumstances, it is perhaps true, that during the period of dentition, the digestive canal and brain are predisposed to disease, which is then readily excited to a most formidable extent by apparently trifling causes.

Although the diseases occurring at this period are to be treated on the same general principles precisely, as when they show themselves prior or subsequent to dentition, yet the circumstance of their direct or remote dependance upon the latter, will point out the importance, at the same time, of abating or removing the morbid irritation existing in the gums, either by free incisions over the protruding tooth, or by leeches. This simple measure early resorted to, has in numerous cases arrested almost immediately the most violent symptoms, by which the life of the little patient appeared to be threatened with speedy extinction.

These general facts in relation to the subject are placed in their proper light, and duly enforced in the dissertation before us, the author of which, while he can, in truth, claim but little for the novelty of his views, deserves great credit



for the industry he has displayed in collecting the opinions of the most eminent writers who have treated upon dentition and the accidents by which it is accompanied, and for the general accuracy of his pathological and therapeutical deductions.

D. F. C.

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XXI. *Dissertatio de Effectibus Jodii in Organismum Humanum Usuque ejus Medico, quam Scripsit et pro Licentia Summos in Arte Medica honores postea capessendi publico Eruditorum examini modeste submittit.* FREDERICUS ADOLPHUS ULDALL, Chirurgiæ et Medicinæ candidatus. Hauniæ, MDCCCXXXIII. 8vo. pp. 78.

*A Dissertation on the Effects of Iodine upon the Human Organism, and its Use as a Medicine.* By F. A. ULDALL. Copenhagen, February, 1833.

In this dissertation the author has collected, with considerable care, the various facts recorded by the leading physicians of Europe, in illustration of the effects of iodine upon the human organism in health and disease; or, perhaps, to speak more correctly, he has presented a useful synopsis of the general conclusions to which these facts are presumed to lead.

As has been almost invariably the case upon the introduction of a new remedy, those by whom the iodine was first employed and recommended, anticipated from the article curative powers in various diseases, far greater than subsequent experience has shown it actually to possess. The iodine is, nevertheless, unquestionably in many cases an invaluable addition to our other remedial agents, and it has been, we suspect, employed by the physicians of this country in its various combinations, much less frequently than the important indications which it is calculated to fulfil would seem to demand. It is a remedy, however, which is not alike applicable to every form and stage of even those diseases, in which it is most celebrated. In its administration, it is essential that we should keep constantly in mind its peculiar mode of operation—in other words, its immediate and remote effects upon the different organs and tissues of the body. It is in this manner alone, that we can determine what are the particular morbid conditions under which it can be resorted to with the most certain anticipation of deriving from it all its beneficial effects, and what are the circumstances which absolutely forbid its use, or render it of doubtful propriety. The same may, it is true, be said of every remedial agent, but it is more particularly applicable to one possessed of properties equal in activity with those of iodine.

Although the treatise before us may be referred to as presenting a tolerably full exposition of the present state of our knowledge in relation to the properties of iodine, and its principal combinations, and their effects in the removal of disease, it contains, at the same time, but little that is not to be found in any of the more recent treatises on the materia medica.

The diseases in which the author conceives that the iodine has been found to exhibit the most beneficial effects are, the various forms of scrofula, scirrhus, indolent enlargements of the joints, ranula, various indurations of the viscera, certain forms of dropsy, especially ovarian dropsy, hypertrophy of the heart and mamma, strictures of the urethra, and obstructions of the Eustachian tubes,



chronic affections of the skin, gonorrhœa, leucorrhœa, chronic expectoration, syphilis, impotency, defective menstruation, and chlorosis.

In the above diseases, the author recommends the iodine solely upon the authority of the French, German, and English physicians, who have written upon the remedy, referring but seldom, if ever, to his own experience, either to confirm or correct their statements.

D. F. C.

XXII. *Sur les Vaisseaux Absorbans du Placenta et du Cordon Ombilical.* Par V. FOHMANN, Professeur a l'Université de Liège. (Avec une Planche Coloriée.) Liège, 1832.

Among the anatomists of modern times, who have been most indefatigable and successful in their researches into minute anatomy, Fohmann must unquestionably be placed in the foremost rank. His discoveries of the immediate communication between the lymphatics and veins in the lymphatic glands; of the existence of lymphatics in the cornea, conjunctiva, serous membranes, inner coats of the vessels, and in the placenta and umbilical cord, fully entitle him, we conceive, to this station. We intend at present to notice only the last of these discoveries, postponing to a future, and we hope not remote occasion, an account of his other researches.

Many anatomists, ancient as well as modern, have affirmed that they saw absorbents in the umbilical cord and placenta, but still little faith was accorded to these observations, because Hunter, Hewson, Cruikshank, Mascagni and some others of equally high authority were unsuccessful in discovering those vessels. The merit of placing this point beyond the reach of further controversy is due to Fohmann. According to this eminent anatomist, the umbilical cord, in addition to the blood-vessels, consists solely of a plexus of absorbent vessels, the meshes of which are so close that the point of a needle cannot be introduced without wounding one of these vessels. Nothing is easier, he asserts, than to demonstrate this net-work by injecting it with mercury; and we learn from a trans-atlantic cotemporary, (*Dublin Journal*, July, 1834,) that Dr. Montgomery, of Dublin, has entirely succeeded in injecting with mercury the lymphatics of the umbilical cord, by pursuing the method about to be described. To fill the umbilical plexus, it suffices, says Professor F. to pierce the sheath with a very spear-pointed lancet, and afterwards to inject mercury into it by means of a tube. In this operation a great number of absorbent vessels are necessarily wounded, and the mercury penetrating into one branch, quickly spreads in all the others, through their innumerable anastomoses. The injection is most easily effected where the gelatine of Warthon is most abundant; this substance being contained in the absorbent vessels, retains these vessels distended, and thus favours the introduction of the mercury. The experimentalist must not, however, expect to find in the umbilical cord, vessels furnished with valves, such as Wrisberg pretends to have seen in it; or such as we observe when they form distinct vessels on the organs of the human body. The absorbent vessels of these deciduous structures, observes M. F. have not yet arrived at so high a degree of development; they are arrested at that state in which we find them in the lower order of animals, and as we observe them in



general in the parenchyma of the human organs; that is, they form net-works and plexuses, the ramuscles of which are deprived of valves, so that the mercury injected in a branch easily flows from one branch into another, whatever may be their direction. The larger lymphatic vessels are described as occupying the axis of the umbilical cord, whilst the smaller ramify towards its surface, and spread over the umbilical sheath. The cells or vesicles observed in them commonly appear when injected with mercury, like dilatations of those vessels in which branches enter on the side of the fœtal placenta, to continue their course to the fœtus. The absorbent vessels are excessively slender at the two extremities of the cord, especially at their passage through the skin of the umbilicus.

When the absorbent plexus at the placental extremity of the umbilical cord is filled with the mercury, and this injection is pressed along towards the placenta, with the handle of the scalpel, we sometimes succeed in distending with it a net-work of lymphatic vessels, situated between this body and the amnion with which it is covered. Professor F. has never observed vessels running from this net-work to ramify in the amnion, as he has remarked in the umbilical sheath; and he has but rarely seen branches from this net-work, penetrate into the parenchyma of the placenta of the fœtus. He has not yet discovered the ultimate terminations of these vessels, but he believes that they pass to the uterine face of the placenta, and that they unite with the very slender lymphatic vessels sometimes observed there. According to Alexander Lauth, (*Considerations sur le Placenta,*) there is a layer of absorbent vessels between the maternal and fœtal portions of the placenta, whence arise branches which terminate in the veins of these two portions, so that the fluid they contain is conveyed into the system of the mother as into that of the fœtus. This opinion Professor F. considers as entirely just, and that the medium of union between the uterine and fœtal placentas may be compared to pseudo-membranes, which consist according to his experiments, almost exclusively of lymphatic vessels, which unite in their course with the absorbent vessels of the parts united by these membranes.

The plexus of absorbent vessels of the umbilical cord, pass to the abdominal region of the fœtus, and a few lines from the umbilical ring their superficial ramifications become so small, that even when filled with mercury they cannot be distinguished except by means of a strong magnifying glass. These vessels fortunately gain in strength what they lose in capacity; and we may use the scalpel to push along them the mercury, without fear of rupturing them. On their arrival at the umbilical ring, they dilate a little, and unite in part to the close net-work of absorbent vessels, that covers the skin under the epidermis, and of which the umbilical sheath is the continuation, whilst the remainder unite to branches that enter beneath the skin, and which at some lines distance from the umbilical ring form a trunk, which running circularly also forms a ring. From this ring two branches are given off, which following the superficial veins of the abdominal parietes, descend between the skin and muscles in the inguinal regions, pass under the crural arches, ramify in the iliac gland, and finally terminate in the thoracic duct. Professor F. states that he has constantly observed the same arrangement; but he has also seen some branches from the lymphatic vessels, within the abdominal muscles, which pass from the



umbilical cord through the abdominal circle, and following the vein and umbilical arteries, arrive at the vena porta hepatici, in passing towards the glands which receive the vessels descending exterior to the abdominal muscles, as has just been said.

The development of the iliac glands in the fœtus and infant is very remarkable, which, Professor F. thinks, may be explained by their performing the function of assimilating the nutritious fluids which the embryo receives from the mother through the umbilicus. Whilst the lymphatic glands appear almost every where like mere corpuscles, which are readily overlooked, the iliac glands attract attention by their size.

The views of Professor F. relative to the mode of nutrition of the fœtus are extremely interesting, and if we are not yet prepared to implicitly assent to their correctness, we are willing to admit that they are at least plausible, and are obnoxious to fewer serious objections than any theory on the subject we have yet met with.

Professor F. attributes to the lymphatic vessels of the placenta and umbilical cord the function of absorption and transmission, principally of the fluid which the uterine placenta secretes for the nutrition of the fœtus.

“That this last,” he adds, “receives in this way nutritious fluids, absorbed also from the liquor amnii, either by the skin or umbilical sheath, or alimentary canal, or respiratory passages, cannot be called in question; nevertheless, the umbilical cord, that is, the plexus of vessels of this part, is certainly at this period the principal route by which it derives its nourishment.”

During the period of gestation, at which the ilio-umbilical vessels have not yet reached the uterus, and before the placental relations have been established, Professor F. considers the liquor amnii as the sole source of nutrition.

“As this water,” he observes, “then exists without as well as within the amnion, and may moisten the abdominal cavity and the parts within it, through the large umbilical opening, as also the skin of the fœtus, absorption may take place from many points. In my opinion the skin here plays the most important part; at least, I am convinced by researches, that the absorbent vessels of the skin are very early developed in the fœtus, and that they are even larger than in adults. I have also found that certain parts of the skin are more abundantly provided than others with these vessels, as well before birth as afterwards; whence it follows, that these parts participate more largely in absorption, and of these are the genitals, the mammae and lips. By whatever part of the body however, the liquor amnii is absorbed, it is received into the blood only by the lymphatic vessels. Neither the absorbent vessels of the mamma, nor those of the mucous membrane of the trachea, or of other parts, proceed to the thymus, as several authors suppose, but to the glands of the axilla, to those of the bronchi, and thus into the great trunks of the lymphatic vessels.”

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XXIII. *Illustrations of Surgical Anatomy, with explanatory References; founded on the work of M. Blandin.* By JOHN G. M. BURT, Surgeon extraordinary to the King in Scotland. Second edition. Glasgow.

This work consists of sixteen plates, representing the superficial and deep-seated anatomy of the neck; a perpendicular section of the head and neck, showing the relative situations of the cavities of the nose, mouth, larynx and pharynx; those parts of the eye concerned in surgical operations; anterior and inferior



views of the axilla; the superficial and deep-seated parts of the bend of the arm; various views of the fingers; the inguinal and crural canals; the internal iliac region, and the connexion of the perinæal aponeurosis, with the aponeurosis of the pelvic cavity; the interior of the perinæum and cavity of the pelvis; the parts concerned in crural hernia; the perinæum in the male; a section parallel to the axis of the body of the perinæum of the pelvic portion of the anterior abdominal parietes, and of the posterior sacral region; the genito-urinary organs in the female, and of the ham, with their explanations. The plates are all line engravings, highly finished, and for perfect distinctness, a most important point in anatomical plates, we have never seen any that surpass them—they indeed leave nothing to be desired. Mr. Burt has conferred a benefit on surgical students, in presenting them with this work, and we cordially recommend it to their patronage.

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**XXIV.** *Considérations sur la Nature et le Traitement du Choléra-morbus, Suivies d'une Instruction sur les Préceptes Hygiéniques contre cette Maladie.* Par Le Chevalier J. R. L. DE KERCKHOVE DIT DE KIRCKHOFF, D. M. Ancien Médecin en Chef des Hôpitaux Militaires; Vice-président Honoraire de la Société Grand-Ducale de Minéralogie d'Iéna; Commandeur et Chevalier de Plusieurs Ordres; Membre de la Plupart des Académies et des Sociétés Savantes de l'Europe; Membre Honoraire des Académies Américaines des Beaux-arts et des Sociétés de Médecine de New-Yorck et de Philadelphie; Associé-correspondant de l'Institut d'Albany; du Lycée d'Histoire Naturelle de New-Yorck; de l'Académie des Sciences et Arts de Batavia, &c.; Membre de la Commission Médicale de la Province d'Anvers. pp. 217. 8vo.

We have waded through too many books, pamphlets and papers on cholera, without profit, to be tempted to lose any more of our precious time in such occupation, without a clear prospect of remuneration for our trouble. We have consequently not perused the work of Dr. Kirckhoff, though we were nearly enticed to that folly by the promise it holds out of a remedy, which is asserted to have been so successful in the hands of the author, as to lead him to “truly believe that it possessed a specific virtue against cholera.” p. 45.

But we had grown wary, and first sought to learn what this vaunted remedy might be. Our readers will probably participate in the eagerness we confess we felt to make this discovery, and we shall not therefore tantalize them by keeping them one moment longer in ignorance of this important secret. The remedy which possesses the extraordinary power of arresting the most violent and destructive disease that has ever afflicted the human species, is the *Spiritus mindeneri*, in large doses! “*L'esprit de Mindenerus, (Acetate d'ammoniaque,)* à forte dose,” given in a little chamomile or common tea. And this large dose consists of one, two, or three *tea-spoonfuls* every half hour or oftener if the danger is urgent!!



## QUARTERLY PERISCOPE.

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### FOREIGN INTELLIGENCE.

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#### ANATOMY.

1. *Lymphatic System in Reptiles*.—Professor MÜLLER, of Berlin, while engaged in a course of experiments on the lymphatic system, has made some very interesting observations on the causes which propel the lymph in the lower types of vertebral animals. He discovered in the frog, at the posterior part of the femoro-iliac articulation near the anus, an organ which is the seat of contractions and dilatations, and which appears to exert a great influence on the motion of the lymph: this organ is double, there being one for each thigh; its contractions are neither synchronous with those of the heart, nor of the respiratory organs, nor are the motions of the organs of both thighs synchronous. This organ is a sort of vessel, containing a colourless lymph. By blowing air into it, we distend not only the whole lymphatic system, but also the veins. M. Müller has discovered the same organ, although with more difficulty, in toads, salamanders, and the common lizard, and he considers it as an organ for propelling the lymph towards the veins. Dr. Marshal Hall had previously discovered an organ situated in the tail of an eel, whose pulsations are independent of those of the heart. This observation induced M. Müller to repeat these observations: he found at the extremity of the tail on each side, a pulsatory organ, containing a reddish liquid. When this organ is injected with mercury, all the lymphatic vessels of the same side are filled, while those of the opposite side remain empty.

Such are the important observations of the German anatomist; but about the same period M. Panizza, a distinguished Italian naturalist, published his researches concerning the lymphatic system of reptiles, and it is pleasing to witness the accordance of opinion between two remote and independent observers. The Italian anatomist has investigated the lymphatic system of the four grand divisions of reptiles, with the most minute attention. In some organs the lymphatic vessels are so abundant that, after a successful injection, one would be tempted to believe that the organ was entirely composed of them. They are not equally abundant in every organ; they are most numerous about the gastrointestinal tube, rather less so in the liver, and still fewer in the ovaries and testicles. In the integuments and extremities they are almost entirely wanting.

The greater number of lymphatic vessels terminate in the receptacle, or in the thoracic ducts, but some empty themselves into little vesicles which terminate in secondary veins.

Of these vesicles there are four in the frog, two at the upper part of the



pelvis, and two under the omoplat. They contract and dilate, but their motion is not in accordance with that of the heart or lungs, and hence M. Panizza calls them pulsatory vesicles. They dilate to receive the lymph from the vessels, and then contract to propel it either into a vein or into the duct.—*Dublin Jour. Med. and Chem. Sciences, from Annales des Sciences Naturelles.*

2. *New Membrane in the Human Eye.*—Dr. G. P. POGGI describes, under the name of Idiachoroïridien, a membrane which he states that he has discovered between the sclerotica and choroid, adhering more firmly to the latter membrane than the former. It is nearly as large as these membranes, has two openings, one posterior, which is very small, and the other anterior, always circular and as large as the cornea. Its tissue is most delicate posteriorly, and it increases sensibly in thickness as it advances forwards; it becomes almost a line thick, of a pulpy and tenacious consistence, and firm at its termination near the margin of the cornea. The membrane in question is of the texture of cellular membrane, is translucent, villous, and contains many sanguineous and lymphatic capillaries as well as nervous filaments. Its colour a few hours after death is a dirty white; it subsequently becomes more or less black.—*Arch. Gén. April, 1834, and Annal. Univ. di Med. Nov. 1833.*

#### PATHOLOGY.

3. *Case of Disease of the Heart.*—The following probably unique disease of the heart is related by Dr. HANNA in our esteemed cotemporary, the *Dublin Journal of Medical and Chemical Science*, for March last. J. B. æt. 31, possessed of extraordinary bodily strength and activity, and of a restless enterprising character; had been in the habit of living freely. He had met with several severe falls from horseback, having been formerly riding master to a dragoon regiment, and latterly been engaged in training horses. He, however, always enjoyed good health till the present attack; its origin he states as follows:—On 25th of last August he received a severe fall on his back from a horse, but found no immediate bad effects from it; however, in a couple of days he experienced a sudden beating at the heart, along with sickness; for this he took an emetic, (which aggravated the symptoms,) and from this period he has been subject to continual palpitations. A short time after he heard something crack loudly to the left of the middle of the sternum, and there immediately succeeded in the same spot a burning pain, shooting occasionally under the scapula, and down along the arm; this pain continued for a considerable time, but has since ceased during the use of digitalis. Sometime afterward, whilst hunting, he was suddenly seized with palpitations so severe as to induce fainting; this was relieved by a bleeding from the arm. He has spat blood. Such is the history of his case, as he detailed it to me. When I saw him he was much emaciated and enfeebled; the usual symptoms of heart complaint were present; dyspnœa on motion, especially up ascents, orthopnœa, palpitations, dreams, and startings, cough, &c. Pulse rather small, but regular. The signs furnished by the stethoscope were: between the second and third ribs, near the sternum, is heard a loud whirring rush of a fluid along with a double beat; this is audible through the whole region of the heart, but is much loudest at the above point; and the finger applied here perceives a very marked thrill, (“frénussement cataire.”) The force of impulsion at this point is various, sometimes much exceeding what is natural; and this not depending on palpitations. Percussion here returns a clear sound. I bled him, and put him on digitalis, hyoscyamus, &c. This occurred in the month of January. During the following month of February, the disease continued to make progress; the œdema of ankles increased, though it never was excessive; and the anguish from the feeling of suffocation became intolerable.



On the 1st of March, following the advice of a friend, he took some opium, (though from having witnessed in two or three cases of heart disease, death notably hastened by its use, I had warned him against it;) when I visited him that evening, he said he was quite easy and happy; but he was then evidently under the delusive influence of the opiate. On calling the following day, I learned, that shortly after my leaving him the preceding evening, he was seized with a fit of suffocation, and after ten minutes severe agony, had expired.—The following day I proceeded to make the examination of the body, but as several of the friends were present, the heart was the only organ I could inspect, and this too, hurriedly, as they were anxious to despatch the funeral. The pericardium contained about a naggin, or a little more, of clear serum; the portion of it lining the heart was in parts dotted with red, and had here and there on its surface shreds of false membrane. The heart itself was two to three times its proper size. On making an incision from the origin of the aorta along the left ventricle toward the apex, I opened into a cavity, which I at first conceived to be that of the ventricle, but soon finding my mistake, and expressing my surprise at the appearance, I was permitted by the friends to remove the heart for further inspection. On returning home, I proceeded to examine the cavity; it might contain a small orange, and was formed in the external paries of the left ventricle; it was separated from the cavity of the ventricles by what seemed the inner coat, transformed into a thick fibrous membrane, while in the outer wall, the muscular texture of the ventricle was quite effaced, as if by the effect of compression; it was lined with shreds of coagulable lymph of various thickness, which easily peeled off. Just at the summit is seen a small, round, smooth opening, about two lines in diameter, leading at once into one of the sinuses of the aortic valve, and situated about four lines below the mouth of the coronary artery.

All the valves of the heart and of its vessels were sound; the aorta was of natural dimensions, and otherwise healthy, except in a diffuse partial redness in a small space of its inner coat, which, however, disappeared after twenty-four hours' maceration. On the surface of the interventricular paries of the left ventricle, is an exactly circular patch of a white colour, about the size of a shilling; this is formed by a softish layer of a plastic lymph, and is united only at its circumference to the lining membrane of the ventricle: corresponding to this patch the lining membrane has a shallow depression, and is more vascular than natural, showing evident marks of inflammation.

On reading the preceding case, the question naturally arises as to the nature of the affection. It appears to me to be an aneurism of the aorta developed in a most unusual situation; indeed, on the whole, a lesion to which, after consulting a variety of authors, I can find no precise parallel. The only question can be between this view of the matter, and an abscess in the substance of the left ventricle. Of this latter affection, there are not wanting several instances, but so imperfectly described, as to give little help in elucidating the question. Morgagni quotes three or four examples from the Sepulcretum of Bonetus; but on reference to that work, these will be found to be little more than mere statements of the existence of abscesses, without any anatomical detail. His object in quoting these cases, was only to ascertain, whether syncope and intermissions of pulse were necessary symptoms of this affection, (a question by the way which he decides in the negative.) Now, not to mention that abscesses, situated in the heart, are rather infiltrations of pus among the muscular fibres, it would be hard to conceive such a cavity left completely empty of pus, except we are to regard it as the consequence of the softening down and subsequent removal of a large tubercle, for these have not unfrequently been found in the heart's substance. But every thing in the history of the case, as well as in the constitution of the individual, disproves such an opinion; as he was of an eminently robust habit, and the attack was sudden, bearing in it all the characters of an acute inflammation. I may here also refer to the authority of Andral, who states, that he never found tubercles in the heart, except they existed at



the same time in other parts of the body. In the case under consideration, there was no symptom of such, and the lungs, superficially examined, showed no sign of their presence.

The heart is deposited in the museum of the Park street School.

4. *Obliteration of the Vena Cava Superior, as it enters the Auricle.*—Dr. REID exhibited a specimen of this to the Anatomical Society of Edinburgh. The manner in which the blood from the head and superior extremities reached the heart was indicated by the increased size of the intercostal veins and the *vena azygos*, which had evidently served to transmit the fluid, whose proper channel had been obliterated. The patient died of disease of the kidneys with dropsy. There were no symptoms indicating disturbance of the circulation, for several weeks at least, before death.—*Edinburgh Med. and Surg. Jour.* Oct. 1834.

5. *Purulent Decomposition of the Blood.* By M. DUPLAY.—At the post mortem examination of a woman, aged twenty-seven, who was brought in a dying state to the Hospital de la Pitié, the only account that could be obtained was, that she had been ill for some months, and had become much worse the fortnight before admission. She had dyspnœa, diarrhœa, and sweats: the following interesting lesions were discovered at the autopsy.

All the cerebral veins, without offering any trace of inflammation, contained a liquid of a faded rose colour, or yellowish gray, with purulent flakes throughout. The ventricles of the heart, but particularly the right, were distended by a liquid the colour of wine lees, in the midst of which clots and purulent flakes were suspended, the same sort of liquid was found in the pulmonary vessels, in the aorta, carotids, and jugular veins, without any appreciable lesion of their lining membrane. The lungs presented only an engorged state. In the digestive canal the large intestine alone appeared diseased, thickened, and ulcerated. The mesenteric glands were tumid and red. The arteries and mesenteric veins contained the same mixture of pus and blood contained in the other branches of the circulation. The same was the case in the veins of the liver. This viscus was very voluminous and somewhat indurated. The spleen was of enormous size, and its tissue compact; the other viscera were sound. In all the divisions of the vascular system the liquid above described was found. The articulations were not opened. Is then this curious fact, presenting no phlebitis, metritis, or purulent cavity in any part, is it, asks the author, an example of *primitive* alteration of the blood?

Andral says, (*Clinique Med.* tom. iv. p. 683,) “perhaps the time is not distant when we shall return to the opinion of De Haen, who admitted that in certain circumstances pus may be found in the blood, as urea is found in it in the physiological state.”—*Dublin Journ. of Medical and Chemical Science*, from *Rev. Méd.* Nov. 1834.

6. *Inflammation of the Membranes of the Ovum.*—Madame ———, eighteen years of age, in the fourth month of her first pregnancy, applied to Dr. OLLIVIER, in consequence of general indisposition, and of a reddish coloured discharge from the vagina.—The abdomen was not at first tender nor swollen, but severe pain was felt in the region of the kidneys. The movements of the child had not yet been felt. The uterus could be felt distinctly with the hand placed on the hypogastrium; and if firm pressure was made, a sharp pain was produced. Gently soothing means and absolute rest were enjoined, and after a few days the patient seemed to be relieved, when suddenly the abdomen became enormously distended, and a fluctuation was distinctly perceptible. A sense of uneasiness and weight in the hypogastrium was complained of. Dr. O. was not at all surprised at this change in the symptoms, as he had, from the commencement, regarded the case as one of inflammation of the membranes of the ovum; and he therefore concluded, when the sudden swelling of the abdomen supervened, that the inflammatory process had terminated in effusion.

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The treatment which he adopted was of the simplest kind, as the general health of his patient was now moderately good. The coloured discharge became less and less, all tenderness of the abdomen ceased, and the movements of the child began to be felt. The pregnancy went on favourably to its full period, and the lady was safely delivered. Dr. O. was then able to verify the accuracy of his prognosis.

It may be noticed, that during the labour, and before the head was protruded externally, there had escaped suddenly a tumour or pouch as large as a man's fist, formed apparently by the fœtal membranes, but of the thickness and consistence of softened parchment.—As labour advanced this pouch burst, and discharged the amniotic fluid.

On examination of the after-birth and membranes, he found that these last were, for about one-third of their extent, considerably thickened, opaque, and of a whitish colour, villous on their internal surface, and, in short, altogether like to parchment which had been long steeped in water. All the thickened portion was traversed by minute vessels, and these were more distinct as they approached the placenta.—*Archives Générales, April, 1834.*

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7. *Hypertrophy of the Muscular Coat of the Stomach.* By Dr. OTTO.—The records of science, as yet, contain but few examples of this pathological phenomena. Neither Morgagni, Haller, nor Baillie allude to it. Meckel in his *Manual*, states, in a general way, that in great eaters the muscular coat of the stomach is often thicker than is usual. M. Louis has indeed detailed two well-marked instances of this hypertrophy which he met with; in both, the pyloric orifice was affected with scirrhus; and he was thereby led to regard the former change as the result of the latter. A woman, forty-nine years of age, of a spare habit of body, had long suffered from mental anxiety, which she vainly endeavoured to subdue by immoderate indulgence in the pleasures of the table;—in course of time the appetite became quite voracious. Her chief malady was a difficulty of breathing, which returned periodically every evening, and was accompanied with the sensation as if a heavy ball was rising from the lower part of the belly to the region of the heart, and there stopped, and obstructed the respiration. These symptoms lasted generally for about six or eight minutes, and then gradually subsided. Each attack became more severe; and at length they sometimes induced delirium. A general emaciation supervened, although the bulimia was not diminished. All the remedies tried to relieve her failed, and she died in the course of a few months from marasmus.

*Autopsy.*—Thoracic organs healthy; omentum almost entirely wanting; liver, gall-bladder, and spleen natural. The stomach was puckered, and evidently much thickened, especially towards the pyloric orifice, and along the great curvature; its blood-vessels were empty; the mucous membrane, coated with a viscid deposite, was thin, transparent, but not softened; its surface was elevated into bold irregular projections, by the subjacent bundles of muscular fibres, extending from the great cul-de-sac towards the pylorus; between these projections were hollows, or depressions; and thus this stomach presented an appearance not unlike to that of the inner surface of the heart. The thickness of some of the muscular fasciculi was at least half an inch. The rest of the alimentary tube was normal.—*Ibid. from Hufeland's Journal, Feb. 1833.*

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8. *Anatomico-Pathological Researches on the Pneumogastric Nerve.* By J. T. H. ALBERS, of Bonn. *With observations on Diseases of that Nerve.* By Dr. HANCKEL.—The state of integrity or disease of the pneumogastric nerve has, by reason of the important functions it presides over, attracted much of the attention of the more modern pathologists. In all the post mortem examinations that came before him for nine years, Dr. Albers has never omitted to take notice of the state of this nerve. In the treatise before us, he mentions only those diseases in which the nerve had been most frequently involved.

In the autopsies of forty-seven persons who died of hooping-cough (some in



the second, but most in the first stage of the disease,) he examined both pneumogastric nerves in each subject, from their origin to the diaphragm. In forty-three there was no change in volume, colour, or consistence. Of the four others, who were scrofulous and lymphatic, the nerve of the left side was found in one slightly red, and that of the right side of the same colour in the three others. This redness was similar to that of the par vagum, in subjects victims to typhus fever, and was always on the side on which the patient commonly lay.

In seven cases of dothi-enteritis, the right pneumogastric was found red in two instances, the left once. This redness affected rather the tissue of the neurilema than the capillaries of the nerve. It disappeared by leaving the nerve some hours in cold water.

In the case of a robust man, æt. 27, who had been attacked in July with dyspnoea, anxiety, delirium, tetanus, and death, in the course of twelve hours, there was nothing presented itself at the dissection but redness and softening of the cervical portion of the pneumogastric nerve. It did not lose its colour by immersion in cold water, but by exceedingly slow degrees, and then was of a yellowish white. No doubt the colour and congestion may be produced on the dead body, by keeping the neck down and the head up, but in such a case the colour will be removed by cold water, and the nerve regain its original hue; but this did not occur in the case just quoted.

In fifteen subjects who died of tubercular phthisis, the par vagum was found developed in a remarkable manner; the right was much larger than the left, and in a more palpable degree than is found in the healthy state. This development of the nerve in phthisis is not rare; it has been observed by Swan and Descot.

In two cases of cancer of the œsophagus, the recurrent nerve was entirely destroyed by suppuration; in another case of perforation of the trachea and œsophagus, the vagus was partially destroyed, as was the recurrent.

In a case of medullary cancer of the mediastinum compressing the trachea and œsophagus, the nerve was developed so as to form a little tumour. The cancerous tumour surrounded the nerve. On cutting into its neurilema, there was found a tumour containing a substance similar to the cancerous one.

In a patient who died of intermittent croup, there were found tubercles in the left lung, tuberculous development of the cervical and bronchial ganglions, and intimate union of the pneumogastric of the right side with these ganglions. From these facts, Dr. Hankel attributes the attack of croup to the irritation produced by the softening of these glands, and the death of the patient to the paralysis of the pneumogastric nerve. He is also of opinion that many chronic affections of the chest are owing to organic alterations, tumours, &c. which compress and irritate the par vagum; and that if we find disease in the lung, we too often carelessly omit the minute examination of this nerve.

M. Andral relates a case, in the *Nouvelle Bibliotheque*, remarkable for its anatomical alterations. The patient was a young man of twenty-four years old, presenting the following symptoms: swollen countenance; œdema of the eyelids, and lower extremities; respiration short, confined, and depending so much on the pectoral muscles, that the lungs seemed paralyzed; inability to remain in the horizontal position; lips and alæ nasi blue; the stethoscope indicated no disease of the heart. Death succeeded suddenly to a fit of dyspnoea. On examination after death, a portion of the par vagum was found enveloped in tuberculous glands, below which the substance of the nerve was in a state of cartilaginous induration.—*Dublin Journal*, Nov. 1834.

9. *Itch*.—M. J. D. RENUCCI, brother to the M. Renucci whose exhibition of the insect of itch has recently made so much noise in Paris, states in a note in the *Lancette Française* for 9th September last, that he is disposed to participate in the opinion that the insect does not exist in all cases of itch, since, notwithstanding reiterated examinations, he has been able to find it in some instances



only, which has led him to adopt two modes of treatment, one for the true, the other for the false itch. He relates also an interesting fact, which, as far as a single fact can go, seems to prove that an insect is the real cause of the true itch. He requested a person experienced in extracting the animal, to examine an infant covered with the pustules of itch, and to extract from them all the insects. The infant was then clothed in new garments and placed under the care of a healthy nurse; it speedily got well, without recourse to any measure but cleanliness; the itching ceased as if by enchantment, and the vesicles soon dried and disappeared.

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10. *Case of Apoplexy in consequence of Effusion of Blood from Aneurism and Rupture of the middle Meningeal Artery.* By Dr. JOHN GAIRDNER.—On Friday, the 2d of December, 1814, I was desired to see the subject of this case, a tradesman, forty-eight years of age. About three weeks before he had assisted a neighbour to carry a heavy load to the top of one of the high stairs in the old town. In doing so he felt a sudden head-ache, and he was troubled from that time with head-ache and occasional giddiness, increased by stooping forward. For some days before I was called, he had also been conscious of some degree of imperfection of vision. At the time of my visit he represented his headache to be very violent and severe. The pulse was 46, feeble and oppressed; the pupils of the eyes contracted and dilated readily enough, but two days after, (Wednesday, 7th,) they were found to be permanently contracted, and not affected by the admission or exclusion of light, and they continued in this state ever afterwards.

Next day, (Thursday,) he was in a drowsy state, but he could easily be roused from it. He replied to questions distinctly enough, and seemed to have less suffering. There was obviously a failure of his muscular power, for he sunk down in bed and was unable to raise himself. After this he proceeded by imperceptible gradations to a state of perfect coma, with absolute insensibility to light and sound, and impressions of all sorts. Involuntary discharge of his feces and urine occurred for several days prior to his death, which happened on Tuesday the 13th. It is worthy of remark, that the breathing was without stertor even to the last.

*Dissection.*—On opening the head a sac was found on the left side, in the course of the meningeal artery, occupying the region of the lower part of the parietal, and upper part of the temporal bone, formed by the separation of the layers of the *dura mater*, and containing about four ounces of blood in a state of coagulation. The portions of the *dura mater* forming the walls of this sac were much thickened and very vascular. The surface of the brain opposed to the sac was flattened, or rather depressed, and the ventricles contained a considerable quantity of serous fluid. These were the only morbid appearances. It is obvious that the artery which poured out the blood must have given way a month before, at the time when he lifted the heavy load and experienced the sudden head-ache.—*Edinburgh Med. and Surg. Jour.* Oct. 1834.

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11. *Loss of Cerebral Substance in an old Apoplectic Case.* By Dr. ABERCROMBIE.—A gentleman, aged sixty-four, was first seized with apoplexy in 1824. He recovered under the usual treatment, but retained some imperfection of speech, and a degree of weakness of the left side. Some months after, he had a second attack; and in July, 1825, a third, accompanied by convulsion. In this attack he lay in a state of insensibility for thirty-six hours, and was not able to leave his room for a fortnight. From this time to the period of his death, in 1830, he had a succession of apoplectic attacks, amounting in all to twelve. Each left him more and more embarrassed in his speech, and paralytic on the left side, with distortion of the mouth; and he died in the twelfth attack, in 1830, after an illness of eight or ten days, during which he lay in a state of nearly perfect coma, with total loss of speech, and perfect palsy of the left side.

*Inspection.*—On removing the *dura mater*, a remarkable depression was observed on the surface of the right hemisphere, forming a deep and well-defined



cavity, capable of containing from three to four ounces of fluid. It had been filled by a clear serous fluid, which escaped when the *dura mater* was wounded in opening the head. The surface of the cavity presented nothing different from the usual appearance of the cerebral surface, being covered by the *pia mater* and arachnoid; but the *dura mater* was extended across the mouth of it, and had inclosed the fluid by which the cavity was filled.

On cutting into the cerebral substance which bounded this cavity, it was found more dense than natural; and immediately below the bottom of it, in the substance of the hemisphere, a cavity was exposed, presenting the usual appearance of a collapsed apoplectic cyst, which had been the seat of an extravasation. It was about an inch and a half long, lined, as usual, by a yellowish membrane, and part of it was obliterated by the adhesion of its opposite surfaces, a thick layer of the same kind of membrane being interposed between the surfaces of the cerebral matter at the place of adhesion. Several other very small cysts were observed in various parts of the right hemisphere, but they were all empty; and no appearance could be discovered capable of accounting for the fatal attack.

The leading peculiarity of this case is the remarkable cavity on the surface of the brain, produced by actual loss of cerebral substance at the part which covered the apoplectic cyst. It presents another fact of some importance,—namely, the most distinct approach that I have seen towards an obliteration of the cyst by the adhesion of its opposite surfaces. The French writers describe the cysts as being entirely obliterated in this manner. I was formerly disposed to doubt the accuracy of these observations; but in this case about one-half of the cyst was obliterated, and there did not appear any thing to prevent the obliteration of the remainder.—*Ibid.*

12. *Tumour of the Cerebellum, with remarkable Course of the Symptoms.* By Dr. ABERCROMBIE.—A gentleman, aged thirty-four, in the year 1825, first began to be affected with occasional attacks of head-ache, which were usually accompanied with vertigo and dimness of sight. In 1827 the pain became more severe, and was distinctly referred to the occiput and upper part of the neck. He had generally a remission of it through the day, and aggravation in the evening. In the spring of 1828 the symptoms increased in severity, but he received considerable relief from blistering. In the summer he went to the country, where his general health was much improved, and the head-ache greatly mitigated. He continued in this improved state till May, 1829, when the attacks of head-ache were again aggravated, accompanied by giddiness, and on one occasion he fell from his chair. In October of the same year, he began to be affected with a most distressing sense of throbbing, referred to the back of the head; and he was also annoyed with frequent vomiting, which continued without intermission for three weeks. The paroxysms of head-ache were now aggravated to an intense degree of severity; they occurred chiefly in the evening, from 6 o'clock till midnight, but also at other times of the day. During the more severe attacks his face was flushed,—the blood-vessels in the temples were remarkably distended,—and he lay unable to speak, in a state bordering upon total unconsciousness, and with his hands and arms spasmodically contracted. He still had occasional vomiting, and intense acidity of the stomach,—and several times he mentioned double vision. His pulse was generally natural; bowels very obstinate.

His state was now considered as nearly hopeless; and no relief was obtained from any kind of treatment. But after five or six weeks of the most intense suffering, the symptoms gradually remitted, and during several weeks in December and January he continued almost free from head-ache,—he was able to walk out, and his general health was greatly improved. In February, 1830, the symptoms again increased, but the pain was now chiefly complained of above the eyes. The remissions also were more complete, and, upon the



whole, his sufferings were less severe than during the former attack. In March his complaints again subsided; and he was able to take a good deal of exercise in the open air, and even to attend to his business. He had still occasional attacks of head-ache, but they were not severe, and his condition was considered as much more favourable than it had been for a long time. In the middle of April the paroxysms of head-ache became more severe, but by no means in the degree in which they had occurred on former occasions. He was not confined, and no degree of apprehension was excited until the 24th, when, in one of the paroxysms, he suddenly expired.

*Inspection.*—The ventricles of the brain contained from three to four ounces of limpid fluid, but the cerebral substance was entirely healthy. Imbedded in the left lobe of the *cerebellum*, there was a tumour, the shape and size of a very small walnut. Externally it was firm, and presented the usual appearance of the scrofulous tubercle. Internally it was softened, with the usual appearance of unhealthy scrofulous suppuration. The substance of the *cerebellum* around it was entirely healthy. All the other viscera were sound.

It is unnecessary to point out the remarkable features presented by this case,—the extraordinary remissions in the symptoms,—the periodical character of the paroxysms, even at the time of their most intense severity,—the long interval of comparative health which preceded the final attack,—and the very sudden nature of the fatal termination,—we may add, the healthy state of the whole cerebral substance, after such protracted suffering.

The patient was a medical man.—*Ibid.*

13. *Case illustrating the Anomalous Nervous Symptoms occasionally induced by Tænia.* By JOHN SCOTT, M. D.—In the spring of 1830, I was requested to visit James Simpson, a pastry-cook, residing in Rose Street. He had been labouring under symptoms of disordered stomach for a year and a half, and for the last nine months of that period the disease had assumed a serious form, he having been constantly affected with vomiting about an hour and a half after taking food, whether it was solid or fluid, unless in the very smallest quantity. He was also, from his wife's account, liable to fits, the nature of which I could not ascertain from her description. He had been under a most respectable practitioner during the whole period, and used a variety of means without benefit.

The colour was sallow and unhealthy; the skin clammy; pulse soft and natural; some emaciation, but not to a great extent, or in proportion to the excessive weakness of which he complained; bowels very irregular; usually constipated; constant feelings of pain and gnawing in the epigastrium; not much increased on pressure. Different medicines, chiefly of the laxative kind, were used, when a smart attack of bowel complaint came on, during which a considerable quantity of blood, mixed with feculent matter, was passed, and then the vomiting ceased; the uneasy feelings disappeared, and he considered himself as well.

In about two months afterwards I was requested to see him again, when I found that the vomiting after food had returned, and that the bowels had become very constipated. He complained of pain over the whole head, which was particularly intense on the fore-part, increased by light and motion; the pupils were contracted; the pulse 92, full and hard. There were intervals of ease, and he had occasionally a quiet but short sleep. Laxative medicines were given, and blood taken freely from the arm, with instantaneous relief, although of short duration, for the next morning the pain was as severe as ever.

A friend saw him with me, and we were somewhat puzzled whether to consider it as inflammation of the brain or not; but considered it prudent to repeat the bleeding. The appetite was gone, great thirst, but the liquid taken was immediately vomited. His wife said the fits had returned. It is unnecessary to enter into long details. In a few days the pain in the head was somewhat mitigated, though he still complained much of it. It was in visiting him early



in the morning that I first witnessed what were called his fits. He lay in his bed with his eyes open and directed upwards. When I inquired how he felt himself he did not look at me, but replied, "Quite well,—there is nothing the matter with me."—"How is your head?"—"Quite well."—"No pain?"—"No."—"Any sickness?"—"No." The pulse was calm and about ten beats lower than usual. When conversing with him he suddenly rose up in the bed, gave a long yawn, stretched out his arms, gazed at me for a moment, and then put his hand to his head, and complained of the pain in it.

A few days afterwards I found him dressed by the fireside, and scolding his wife for some alleged fault. When I inquired what the matter was, he said he had been very ill used, and that he had dressed himself to go and complain to Dr. Scott, and entered into long details, addressed to me as a third person, perfectly unconscious of my presence. The eyes were not directed to me but straight forward; and he always said he was quite well. On starting from this state, which was almost instantaneous, he complained of his head; the vomiting still continued; and he had constant gnawing feeling in the epigastrium. I tried a variety of means, and witnessed several of the attacks; and there was one remarkable circumstance connected with them, that when awake he could scarcely be persuaded to take food of any kind, while in his unconscious state he complained bitterly that his wife had been starving him, and would give him nothing to eat, and when food was offered he took it eagerly. His natural sleep was rather sound, and he awoke in the usual manner; but generally in the morning relapsed into the fits of unconsciousness, which continued from ten minutes to a quarter of an hour, and sometimes half an hour, and recurred three or four times a day. When questioned as to his sensations, he professed his utter unconsciousness of having been spoken to, or of my presence. Previous to his waking he frequently rose from his bed, dressed himself, walked about, and was with great difficulty prevented from going into the streets, generally for the purpose of visiting me. It now occurred to me that these strange appearances might be connected with worms, I therefore gave him a full dose of turpentine, followed by castor oil, which brought away many pieces of *Tænia solium*, with much mucus. The dose was repeated several times, the worm discharged, and all the symptoms disappeared. He has had frequent returns of sickness, and other indications of his former disease, but these have been invariably removed by turpentine or decoction of the pomegranate root, and followed by a discharge of pieces of worm. For the two last years he has been perfectly well.—*Ibid.*

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14. *Case of Apoplexy.*—Dr. A. D. MACLAGAN exhibited to the Anatomical Society of Edinburgh a portion of the brain of a woman, aged sixty-four. The right *corpus striatum* was completely broken up, with about two ounces of coagulated blood in the anterior cornua of the ventricles. The coats of the cerebral arteries were diseased.

The patient was of temperate habits, and not plethoric, and had been seen by Dr. MacLagan some months before death, on account of slight derangement of the bowels. About four days before death, Dr. MacLagan was again called, and found, that while moving across the room she had fallen down in a fit, and was totally insensible; the pupils were closely contracted and immoveable. Her breathing was slow, but without stertor; and the pulse slow, labouring, and full. She had not much distortion of the face, but it was quite perceptible; and she had complete hemiplegia of the left side. She occasionally lifted her sound arm to her head, as if she had suffered pain there. She was treated in the usual way, and died without convulsions, having survived the attack four days.—*Ibid.*

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15. *Existence of Charcoal in the Lungs.*—Dr. G. PEARSON in a memoir in the Philosophical Transactions, for 1813, on the colouring matter of the black bronchial glands, establishes the fact that a dark carbonaceous matter accumu-



lates to a considerable extent in the above mentioned glands, during the course of life, in the human subject, which he thinks is introduced into the lungs with the air in breathing. The black matter was obtained not from the red glands, but from such only as were dark-coloured, by acting on them indifferently with caustic potash or nitric acid, so as to dissolve or destroy the organic matters. This black matter proved to be a tasteless and infusible powder, insoluble in muriatic acid, nitric acid, and perhaps all common acids except sulphuric; affording as large a proportion of carbonic acid, when burnt, as animal or vegetable charcoal which has been dried at the same temperature, and equally unaffected by heat in close vessels. In fact, although not completely freed from animal matter by Dr. Pearson, the black powder possessed all the properties of carbon or charcoal, as we have it in lamp-black or soot.

Dr. Pearson believes that this sooty matter is deposited on the surface of the bronchial tubes and air-vessels from the air inspired; and, from a comparison of the black lines and black net-like figures, many of them pentagonal, on the surface of the lungs, with the plates of the lymphatic vessels, by Cruikshanks and others, which they exactly resemble, he infers, "that the lymphatics of the lungs absorb a variety of very different substances, especially this coaly matter which they convey to the bronchial glands, and thus render them of a black or dark-blue colour. When a thin slice of the surface of the lungs was treated with nitric acid, these black lines remained, as black threads of charcoal, after the solution of the other parts.

Dr. Graham, of Glasgow, has had several opportunities of substantiating the existence of a carbonaceous matter, in a state of extraordinary accumulation, in black lungs, and the *Edinburgh Medical and Surgical Journal*, for October last, contains an account of his investigations. From these he draws the following conclusions:—

1. The black matter found in the lungs is not a secretion, but comes from without. The *pigmentum nigrum* of the ox I find to lose its colour entirely, and to leave only a quantity of white flocks, when rubbed in a mortar with chlorine water. *Sepia*, which is a preparation of the dark-coloured liquor of the cuttle fish, was also bleached by chlorine. But the black matter of the lungs was not destroyed or bleached in the slightest degree by chlorine. It even survived, unimpaired, the destruction of the animal matter of the lung by putrefaction in air.

2. This foreign matter probably varies in composition in different lungs, but in the cases actually examined seems to be little else than lamp-black or soot.

3. It is evident that the accumulation of charcoal in the lungs, which Dr. Pearson remarks to occur more or less in every subject, may proceed in peculiar circumstances to a great extent, without affecting immediately the general health of the patient. In Dr. Laurie's and Dr. Buchanan's cases, all the patients were robust and healthy, had no cough, and no expectoration of black matter.

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16. *Occlusion of the Ductus Communis Cholidochus*. By J. M'CLELLAND, Esq. —Cordell, an European pensioner, at Chunar, æt. 31; eleven years resident in India, suffered for three months from symptoms of chronic dysentery, attended with pain in the region of the liver, for which he was repeatedly salivated, but without benefit; he gradually sunk under the dysenteric symptoms. On post mortem examination, the mucous membrane of the great intestines was found in a state of ulceration; the liver was of a dark colour, but not otherwise diseased; the gall-bladder contained a small quantity of dark viscid bile: the ductus communis cholidochus was compressed by an enlarged gland, seated in the capsule of Glisson, and its canal was obliterated. The author refers to the cases of occlusion of the biliary ducts, recorded by Mr. Twining, in the 5th vol. of this Society's Transactions, in proof of the frequency of obliteration of these ducts; and also mentions Portal's case of obliteration of the biliary ducts as well as the gall-bladder, related in the treatise *Sur la nature et la traitement*



*des maladies du foi*; Dr. Farre's case in his *Morb. Anat. of the Liver*; Dr. Todd's case in the 1st vol. Dublin Hospital Reports, and Dr. Percival's case in the 2d vol. of the same work. Mr. M'Clelland observes, that in a pathological point of view the inference that occlusion of the biliary ducts is not of unfrequent occurrence in India, is of high practical importance, and worthy of careful investigation by the Society. He further observes, that the observations of Majendie and Brodie are singularly at variance, respecting the uses of the bile and its importance in the process of digestion. Vide Journal of Science, No. xviii. and Medical and Physical Journal, vol. 56, p. 340.—*Transactions Med. and Physical Society, Calcutta, Vol. VI.*

17. *Rupture of the Heart*.—At the meeting of the Society held on the 3d Sept. 1831, a letter from Mr. Galt, Assistant Surgeon, Bengal Service, was read, containing a case of fever which terminated fatally by rupture of the heart: the disease occurred in a Sipahce, who had been ill about a month, but had avoided going into hospital, in hopes of recovering by the use of his domestic remedies. This man's illness continuing, he was compelled to resort to the hospital on a Monday, and had then the ordinary symptoms of fever, but not in a very severe degree; the pulse was 90, regular, and neither very full nor hard; tongue white; and some morbid heat of skin was present. There was evident induration of the liver, but no pain on pressure. The respiration and action of the heart appeared regular and unembarrassed. The patient was purged with calomel, colocynth, and castor oil; leeches were applied to the side, and antimonials administered; whereby the symptoms of pyrexia were mitigated, and he felt better; but his pulse continued rather quick. He stated himself to be much better on Tuesday evening, and on Wednesday morning early, he died suddenly. On dissection, adhesions of the pleuræ were observed in both sides of the chest; the pericardium was greatly distended, containing about a pint of blood, part of which was fluid, and part coagulated. There was much morbid vascularity of the pericardium; the structure of the heart itself, had to a considerable extent, undergone a change to an adipose appearance; and about the extent of half an inch of the left ventricle at the apex of the heart, was changed to a white substance, easily divided by the knife; and at this part was a perforation large enough to admit the point of the finger, leading into the left ventricle; a small membranous sac, about the size of a grape, was found detached from any part, and floating in the blood in the pericardium; it corresponded in size with the opening into the left ventricle; and was considered by those who saw it, as resembling a part of the very apex of the diseased structure of the heart. The liver and spleen were both enlarged, and there was a great quantity of serous fluid in the abdomen.—*Ibid.*

18. *Case of Hepatic Abscess*. By WILLIAM STOKES, M. D.—The patient who was the subject of this disease, was admitted into the wards of the Meath Hospital in August, 1828. The history of his case was, that he had been labouring, some time previously, under obscure symptoms of an hepatic affection, accompanied by slight fever and jaundice, which had gradually subsided. Three weeks before admission, he stated that he had irregular fits of shivering, followed by sweating, and when he came to the hospital, he complained of sickness of stomach, but particularly of cough and difficulty of breathing, which were extremely harassing, and said that he came in chiefly to be cured of his cough. He was considerably emaciated, and looked pale and low; but his stools had a natural appearance. On considering the history of his case, and the symptoms then present, it struck me that it was either hepatitis with supuration, or empyema of the right side, with irritation of the liver. At that time I had not made my researches on the diagnosis of empyema, and I must confess that I experienced a great deal of difficulty in determining the nature of the case. I found the right side considerably dilated, with dullness on percussion over its inferior half, but the intercostal spaces were not distended, and



preserved their natural appearance. The case went on in this way for some time. Permit me to draw your attention for a moment to this point. Dilatation of the right side may result from the pressure exercised upon it by a solid or by a fluid mass. If the mass be solid, it will push the ribs outwards; but the intercostal spaces will still preserve their natural appearance. But if the protrusion of the side be the result of pressure by a fluid mass, the intercostal spaces will be acted on even more than the ribs, and the sulci, which mark their situation, will be effaced. Now, in this case the intercostal spaces were evident, and from this circumstance I determined that it was a liver disease. The patient continued for a fortnight without exhibiting signs of any material change, and then the tumour increased very much in size, but there was no appearance of pointing. At this time the patient was visited and examined by a number of medical men, and all agreed that it was a case of deep-seated suppuration of the liver. Under these circumstances it was thought adviseable to make an incision through the integuments down to the peritoneum, as recommended by Dr. Graves, and to keep the wound open by filling it with lint. This operation was performed, and the wound kept open for several days, but no matter came. On the sixth day the patient began to sink, his face became hippocratic, his extremities cold, and every one thought he was dying. During the course of the day it was observed that there was a circumscribed tumour, with a distinct sense of fluctuation, situated close to the wound, and towards the right side of the mesial line. Here is an important stage of the case;—a man presenting evidence of suppuration in the liver has an operation performed on him to favour the exit of pus externally, and some time after this we find a circumscribed fluctuating tumour, nearly in the situation of the wound. We concluded that the hepatic abscess was pointing in that situation, and it was determined to pass a lancet cautiously into the tumour. This was done, but to our astonishment, instead of pus pure bile escaped through the incisions. It is clear that we had mistaken a distended gall-bladder for an abscess, and this I need not tell you was a serious error. It is singular, however, that the accident was not followed by any bad consequences. About two hours after the operation the patient went to stool, and passed two large evacuations, consisting chiefly of a vast quantity of purulent matter. Next morning he was surprisingly well, *and the hepatic tumour had considerably diminished*. His countenance recovered its natural expression, his spirits were quite elated, his pulse had become tranquil, and the liver was manifestly returning to its ordinary dimensions. He began to sit up, was put upon generous diet, could walk about the ward, and was talking of leaving the hospital. From the period, however, at which the discharge of pus took place he had an obstinate diarrhœa, and though he took a great deal of nourishment he was still pale and emaciated. Twenty-two days after the subsidence of the tumour, another swelling began to make its appearance in the epigastrium, which increased daily, and it was obvious that another abscess was forming in the left lobe. About a fortnight after this, he was suddenly seized with excruciating pain in the epigastrium, followed by symptoms of peritonitis. The tumour in the epigastrium subsided, but the patient sank in a few days of the peritoneal inflammation. Let me recal the circumstances of this case. First, we have obscure signs of the existence of abscess; then the sudden escape of matter from the bowels, accompanied with subsidence of the hepatic tumour; in the next place a persistence of diarrhœa and emaciation; and lastly, we have a new tumour in the epigastric region, disappearing on the supervention of symptoms of acute peritonitis. From a consideration of all these circumstances, I stated to the class that I should expect to find evidences of the abscess in the right lobe, which was the first affection, and I ventured to say, that the opening between it and the intestinal tube was still pervious. I was led to form this opinion from observing the persistence of the diarrhœa, to check which, all the ordinary remedial means had failed. This was the first part of the diagnosis. In the next place I stated my belief, that the gall-bladder had been punctured, but could not explain why the bile had not escaped



into the peritoneum. Thirdly, I said, that an abscess had formed in the left lobe, which had discharged its contents into the peritoneal cavity. All this was stated publicly, and on consideration, you will find that there was no great difficulty in making the diagnosis. On dissection, we found a cavity in the right lobe, with a small quantity of matter in it, and having a free communication with the duodenum. The fundus of the gall-bladder was found adhering to the parietal layer of the peritoneum, and the mark of a lancet wound in it was evident. A recent abscess was discovered in the substance of the left lobe of the liver, from which the matter had escaped into the peritoneum by a passage capable of admitting a small quill. Every part, therefore, of the diagnosis of this case was perfect, and borne out by the necroscopic appearances. You will see the details of this very interesting case published in a paper by Dr. Graves and myself, in the fifth vol. of the Dublin Hospital Reports.

This case is exceedingly interesting, because it illustrates two remarkable terminations of hepatic abscess: in one instance, by opening into a cavity which had an external communication, in the other, into a shut sac. The patient recovered from the first abscess, and would have done so effectually if the fistula had closed, (no uncommon event;) but he could scarcely have recovered from the second, because where the matter escapes into the peritoneum or pleura, the patient almost invariably dies of acute inflammation of these cavities. This case derives additional interest from the circumstance of the gall-bladder having been opened. I believe this is the only case on record in which an opening made into the gall-bladder has not been followed by fatal consequences.—*Lond. Med. and Surg. Journ. April 12th, 1834.*

19. *Case of Aneurism of the Hepatic Artery—Distention of the Liver with Bile.* By WILLIAM STOKES, M. D.—In one of my past lectures I alluded to a case of aneurism of the hepatic artery, of which I had procured a preparation; to-day I shall be able to exhibit to you the morbid appearances in this very remarkable case. It would appear that aneurism of the hepatic artery is an exceedingly rare circumstance. At a late meeting of the Academy of Medicine in Paris, a specimen of aneurism of the hepatic artery was presented to the Society; and that celebrated pathologist, Cruveilhier, stated, that it was the first of the kind he had ever seen. I wish to bring this preparation before you, not merely from the interest which its rarity excites, but also because the disease, in this instance, produced that distended condition of the gall-bladder to which I drew your attention on a former occasion, and which, in this case, was recognised before death. The gall-bladder formed a distinct pyriform tumour, situated a little above the iliac fossa, and the patient was deeply jaundiced. I shall state, from recollection, what I know of the details of this case. The patient was brought into the Meath Hospital labouring under jaundice, which he stated to be of some day's standing. He was thin and weak, and when questioned respecting his age, he said he was thirty-five, but he appeared to be upwards of fifty. His habits he described as being uniformly temperate and regular. Some years before he had suffered from an attack of apoplexy, but after this had enjoyed good health, until the occurrence of the present illness, which began with vomiting of blood, and which continued for some days and then yielded to medical treatment. He now experienced a loss of appetite, became quite dyspeptic and constipated; he also began to lose flesh, and under these circumstances applied at a dispensary, where he got various remedies without any benefit. Some time after this, he observed, on getting up one morning, that his arms and legs looked rather yellow; on the following day he had a decidedly bilious tinge with yellow vision, and in this state he entered the Meath Hospital. On admission he presented symptoms of general jaundice; the urinary secretion was deeply coloured; the skin, eyes, and nails yellow; the stools white and without any trace of bile. On examining the abdomen, the liver was apparently greatly increased in size; in the epigastric region there was a tumour of considerable dimensions; and in the iliac fossa we observed a separate pyri-



form tumour, which could be traced up to the edge of the enlarged liver. I mentioned, at that time, to the class, that there was something about the case which I could not understand. The disease was of inconsiderable standing; the patient had, a short time previously, been in a state of good health, and yet, reasoning from analogy, this hepatic tumour could only have occurred as the result of chronic disease. It must have been the consequence of disease more or less chronic, and yet the history of the case was at variance with the idea of its chronicity. After some time the patient got miliary eruption, then petechial spots; he continued in a low and weak state, and nothing did him any good. On the morning of the day of his death he did not appear worse than usual; he answered our inquiries respecting his health in his ordinary manner; in the evening he sat up in bed gasping for breath, with a look of extreme distress; he then leant back on his pillow and expired.

On opening the peritoneum we found a vast quantity of blood effused into its cavity, and my first impression was, that it was aneurism of the abdominal aorta. On closer inspection, the aorta proved healthy, and the aneurismal tumour was found to be connected with the hepatic artery; this had ruptured close to the gall-bladder, and its contents had been effused into the cavity of the peritoneum. We now found that the cause of the jaundice had been the pressure which this tumour had exercised on the biliary ducts. In consequence of the obstruction to the flow of bile, the ducts of the liver were dilated to an enormous extent; some of them were capable of admitting the largest sized finger. This dilatation affected not only the larger trunks, but even extended to their most minute ramifications, even up to the surface of the liver; and here we found that the biliary tubes were dilated into sacs, some of which were as large as a hazel-nut. When these pouches were punctured, the bile gushed out freely. A similar condition of the ducts has been noticed by Mr. Lloyd as existing in connexion with obstruction of the biliary duct, from disease of the head of the pancreas, in his paper on Discharge of Fatty Matter from the Bowels. (See Med. Chirurg. Trans.) I have got the preparation of this singular disease before me, and I regret that in one respect it is defective, inasmuch as it does not show satisfactorily the condition of the biliary ducts. A portion of the preparation which exhibits this appearance I gave to Dr. Houston, the Curator of the Museum at the College of Surgeons, and I am sure that he will give admission to any gentleman who is anxious to examine it. This preparation, gentlemen, is too large to send round. It exhibits the hepatic artery with its aneurismal tumour, and the opening by which the artery communicates with the aneurismal sac. Here is the place in which the rupture took place, and here is the gall-bladder greatly distended and thickened in its coats.

Here, then, we have a new cause of jaundice, where the disease is the result of the pressure of an aneurismal tumour of the hepatic artery,—a cause which has hitherto been unnoticed by writers on jaundice. The great interest of this case consists in this, that dissection explained the difficulty which I felt in making the diagnosis at first, for it showed that the hepatic tumour was formed, not by an hypertrophied, but by a distended and displaced liver. It proved that it was formed, not by a process of chronic growth, but by the rapid formation of an aneurismal swelling, and the consequent obstruction of the gall-bladder, accompanied by distention of the liver itself. With recent symptoms, then, we had, in this case, *an enormously large liver, not the product of acute inflammation, but of distention of all the biliary ducts up to their most minute ramifications, and arising from mechanical obstruction.* As far as it goes, this case appears to me to be perfectly unique.—*Ibid*, April 19th, 1834.

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20. *Inflammation and Abscess of the Abdominal Parietes over the Hepatic Region.* By WILLIAM STOKES, M. D.—This is a very singular disease. It is sometimes trifling, but I have seen a patient die of it. With the original nature of this disease I confess that I am not at all well acquainted; nor can I say whether the inflammation first attacks merely external parts, or whether it is a primary



affection of the liver, and that the external parts take on diseased action from sympathetic irritation. In such cases, we frequently observe many of the symptoms of inflammation of the liver, as pain, tenderness, biliary derangement, foul tongue, and morbid stools, with a tumefied state of the integuments. After these symptoms have continued for some time, the tumour increases in size, becomes softer, and matter forms. You give exit to the pus by opening the abscess with a lancet, and the patient gets well. This occurrence I have frequently witnessed. From a consideration of all the circumstances, it strikes me that in this disease the first morbid action, in all probability, commences in the liver itself, and that the external inflammation is an example of the strong sympathy which subsists between disease of deep-seated parts and the integuments which cover them. Of this fact you have several illustrative instances. In pleuritis we frequently find the integuments of the chest remarkably tender on pressure; and in cases of inflammation of the brain the integuments of the scalp have their sensibility much increased. The same thing occurs in hepatitis; and in this disease one of the first distinct symptoms is this tenderness of the superincumbent skin. Now, you can conceive that if this morbid sensibility of the investing parts should increase, that in place of having some pain and tenderness, accompanied by swelling, we may have suppurative inflammation set up in these parts; and that, under such circumstances, the inflammation may leave the internal organ where it first existed, and be thrown upon the external parts in its vicinity. It strikes me that this is not unfrequently the case in this curious affection. In the case of this disease which I have seen prove fatal, the following circumstances were observed:—Evident symptoms of inflammatory fever; pain and tenderness in the region of the liver, followed by the appearance of a tumour, which became fluctuating, was opened, and a quantity of matter discharged with considerable relief to the patient. She left the hospital, but returned again in about a fortnight or three weeks, with an enormous tumour in the same place, which was again opened, and a vast quantity of purulent matter evacuated. Though the matter continued to flow out freely, she did not recover strength; and on inquiry it was found that, before her second admission, she had spit up some blood. One day, while dressing the abscess, the gentleman who attended her, observed that when she coughed, air passed out through the wound, proving the existence of a fistulous communication with the lung. On examination after death, we found an abscess, the base of which rested upon the peritoneal surface of the liver, without engaging its substance. From this the matter had made for itself a double passage, one externally, the other through the diaphragm and pleura into the substance of the lung. This was the only case in which I have seen this disease prove fatal; and in it death appears to have been caused by the extent of the disease, and by the abscess opening into the pleura and lung.—*Ibid*, April 12th, 1834.

21. *Complication of Hepatitis with Disease of the Heart.* By WILLIAM STOKES, M. D.—A common error is that of confounding affections of the heart with those of the liver, and this I regret to say is an error of very serious consequence, and one which is frequently observed in the consultations of medical practitioners. A patient complains of palpitations, a physician is called in, and pronounces the disease to be hypertrophy of the heart; another is called in, and gives it as his opinion that the liver is affected; a third is summoned, and says that both the liver and heart are diseased. In such cases you should always make a careful examination, and weigh well the circumstances of the case in your mind before you venture to pronounce an opinion. In the first place, you are to recollect that organic disease of the heart may produce disease of the liver. Secondly, that disease of the liver, (though not so often,) frequently brings on morbid affections of the heart, and nervous palpitations. Thirdly, that these affections act to one another reciprocally as cause and effect. If a person has disease of the heart, the current of the circulation through that organ is obstructed, and you may have disease of the liver, not as the result of



any original affection of that organ, but as the effect of chronic obstruction to the passage of blood through the heart. The consequent congestion and disease of the liver may, in such a case, be reflected on the digestive tube, and this in turn may react on the heart. The heart sympathizes then with the irritation of the digestive tube; we have nervous palpitations, and if these continue for a length of time, we have the disease of the heart increased. Again, suppose a patient has chronic disease of the liver, causing more or less obstruction to the circulation; the heart begins to sympathize, palpitations commence, go on increasing, and finally terminate in hypertrophy of the heart. The mischief does not stop here; the effects of obstruction extend to the vena cava hepatica, this in turn reacts on the liver, and we have in this way a curious train of phenomena; first liver disease, then heart disease, and lastly, liver disease again. Let me once more impress upon you, that, under such circumstances, you cannot be too diligent in making an examination, or too cautious in pronouncing an opinion.—*Ibid*, April 19th, 1834.

22. *Embryonary state of the Liver mistaken for Chronic Hepatitis.* By WILLIAM STOKES, M. D.—A patient, labouring under the following train of symptoms, comes to consult you;—he has pain in the right hypochondrium, loss of appetite, deranged bowels, morbid stools, a dirty bilious hue of countenance, and, in fact, all the symptoms of diseased liver. You examine the liver, and find it very much tumefied; in fact, its size is so much increased, that you would at once be inclined to say that it was extensively diseased. Now, there are some cases of great tumefaction of the liver, accompanied with more or less of the symptoms of hepatic derangement, and yet, in such cases, you may have no disease of the liver at all, at least none of the ordinary forms of hepatitis; there are cases in which there exists, in adults, a persistence of the embryonary condition of the liver. If we compare the condition of this organ in the infant and in the adult, we find many essential points of difference. In the infant it is comparatively large, and as it were hypertrophied; it descends far below the margin of the ribs, and occupies a large portion of the abdominal cavity. On the other hand, if we examine its state in the adult, we find that it has shrunk beneath the short ribs, and that its size and dimensions are comparatively much reduced. Now, this physiological atrophy of the liver is a natural and healthy process. There are *certain individuals, however, in whom this change does not take place, and who grow up with the liver, bearing the same proportion to the other organs as it did in the foetal conditions.* This curious condition is one of the varieties of arrest of development, and is, in almost every instance, observed in those persons whose constitutions present that train of phenomena to which the term scrofula has been applied, and which, (if I have time,) I shall show you is explained, or at least great light is thrown upon it, by the theory of arrest of development. *In such subjects the tumefaction of the liver is by no means a measure of actually existing disease.* If you were to suppose this tumefaction of the liver to be the product of actual recent disease, and proceed to treat the patient in the same way as you would treat a case of hepatitis in the healthy subject, you would not only do no good, but, in all probability, a great deal of mischief. I know the case of a gentleman, in the enjoyment of good health, who has this tumefaction of the liver to a very great degree. He is of a thin, spare habit of body, with a full, round, and prominent belly; he is pursuing the avocations of an active profession, and yet you will hardly credit me when I say that his liver extends below the umbilicus, and close to the anterior superior spine of the ileum; and yet he is very active, and to all appearance a healthy man. You will often meet with this condition of the liver in children who are attacked at an early age with symptoms of tabes mesenterica.—*Ibid*.

23. *On the Connexion of Hepatic with Gastro-intestinal Disease—Modes of Transmission of Disease from the Mucous Surface to the Liver.* By WILLIAM STOKES, M. D.—The disciples of Broussais are of opinion that almost all cases



of hepatic inflammation are secondary to a gastro-enteritis; that the first morbid action is on the surface of the intestinal tube, and that it is transmitted from this to the liver. I have taken a considerable share of pains in investigating this subject, and have examined very carefully the question as to the complication of hepatic inflammation with disease of the gastro-intestinal surface, and the conclusions to which I have come are the following:—In the first place, that most cases, whether of acute or chronic inflammation of the liver, present the complication, more or less, with disease of the intestinal mucous surface, and that in the majority of instances, there is some degree of actual disease of the digestive tube. It would appear also, from observation of different cases of hepatitis, that in a great many the affection of the liver has been secondary, and that symptoms of disease of the digestive tube have preceded those of hepatic irritation. But on the other hand we must admit that the hepatic affection may be primary; that the liver has the irritative, and that disease has been subsequently propagated to the gastro-intestinal mucous surface. Lastly, we may have hepatitis both acute and chronic, quite independent of any disease of the mucous coat of the stomach and bowels. This, I believe, is the rarest case: still it does occur. You observe, therefore, that the doctrine of the physiological school, that all hepatic inflammations are secondary to a gastro-enteritis, is not supported by the authority of facts. It is therefore wrong to say that every case of acute or chronic hepatitis is preceded by gastro-intestinal inflammation. Facts have been brought forward to show that not only has inflammation of the liver been observed in the simple state, and independent of any complication with intestinal disease, but that the affection of the liver has distinctly preceded the symptoms of gastro-enteric disease. On the other hand, however, I am free to admit that these are the exceptions rather than the rule, and that in the majority of cases, hepatitis is either secondary, or complicated with disease of the gastro-intestinal surface.

Now, a very interesting question comes to be considered, and this is, how does the disease come from the gastro-intestinal surface to the liver? Pathology informs us that irritation may be transmitted from one organ to another in three different modes. First, sympathetically, as through the medium of the nerves. Thus, long-continued stimulation of the stomach is reflected upon the liver, the liver sympathizes with the suffering organ in its vicinity, and finally becomes diseased itself. It is in this way that many chronic affections of the liver and stomach terminate in affections of the neighbouring viscera and dropsy. The first mode then, in which disease may come to affect the liver from the gastro-intestinal surface, is by sympathetic irritation. The next mode is supposed to be the actual transmission of disease along the biliary duct from the duodenum to the liver. Inflammation commences in the duodenum; this creeps along the ducts until it reaches the liver, which takes on the inflammatory action in its turn. Several persons of high authority have supported this view of the question, and assert that they can actually demonstrate the passage of inflammation along the ducts. Without denying the possibility of this, yet I feel convinced that it is rare. I have never been able to discover this mode of propagation of inflammation from the duodenum to the liver; and it must be remembered that in the great majority of cases of duodenitis we cannot detect inflammation in the liver or its appendages. The last mode by which disease may be transmitted, is the propagation of inflammation along the course of the veins belonging to the portal system; that is to say, there is phlebitis of the portal system, and the inflammation travels along the veins until it arrives at and attacks the liver. That this has occurred is proved. But we may suppose that in certain cases, disease of the liver may result from a phlebitis of the minute mesenteric veins, without a continuous spread of inflammation to the larger trunks; just as the lung is affected in cases of phlebitis of the extremities, not by actual spread of inflammation, but rather, as Mr. Arnott has shown, by the transmission of the products of that inflammation.—*Ibid*, April 26th, 1834.



24. *On Phlebitis of the Vena Porta.* By WILLIAM STOKES, M. D.—Inflammation of the portal veins is a circumstance which possesses great interest in a pathological and practical point of view; it is a curious process, and there are some singularities connected with it which have a claim on our attention. In the Clinique Médicale of Andral, there is a case given of a patient who, after labouring for some time under symptoms of fever and gastro-enteritis, was attacked with pain and tension in the region of the liver, followed by jaundice. On dissection, marks of inflammation were found in the stomach and ileum, there was also some disease in the colon, and the liver was found to be enlarged and presenting the ordinary marks of inflammatory action. On a more minute examination, nearly all the mesenteric veins and the trunk of the porta were discovered to be in a state of intense inflammation, while, on the other hand, the lining membrane of the vena cava was found to be in its normal and healthy condition. Here we have a very remarkable coincidence between disease of the liver and of the portal system. First, the patient had fever with gastro-enteric inflammation, and then pain and tension in the region of the liver, followed by jaundice. On dissection the mesenteric veins and the trunk of the porta are found inflated, this condition extends to the liver, the substance of which is found tumefied, red, and friable. I believe there can be no doubt that disease of the liver may be brought on by disease of the abdominal veins, particularly those of the portal system. It is a very curious fact, that with symptoms, such as many practitioners would not hesitate to call chronic hepatitis, we may have phlebitis, terminating in obliteration of the porta, and even of the vena cava. In such cases nature generally makes an effort to keep up the venous circulation; in consequence of the obliteration of the internal abdominal veins, the external ones become enlarged, and produce a supplementary circulation to a certain extent, and in this way life is prolonged. This drawing, which represents the appearance of a patient labouring under this form of disease, will give you some idea of the matter. You observe the patient's belly is enlarged and prominent, his extremities œdematous, and here you see those enormous veins passing along the surface of the belly, and keeping up a collateral venous circulation. In the patient, from whom this drawing was taken, the porta and cava were obliterated. These are the epigastric and other superficial abdominal veins which ascend to anastomose with the thoracic, intercostal, and axillary veins.

I shall now relate, as briefly as possible, the particulars of this very remarkable case. The patient, who was the subject of it, laboured for more than twelve months under jaundice, accompanied by wasting of flesh and prostration of strength, but for the first eight months he had not been confined to bed. He suffered, however, very considerably even at this period, from constant pain in the epigastrium and swelling of his feet. Now, in this country, we would be very apt, under such circumstances, to say that he was labouring under chronic hepatitis. At the end of the eight months he became bed-ridden, and the large veins, which you here see, began to make their appearance. Although he was wasting in flesh, still he had a canine appetite, and was always complaining that he had not enough to eat. This is an interesting fact. It has been observed in other cases, and tends to throw some light on the share the mesenteric and other abdominal veins have in the process of absorption. In *tabes mesenterica* it has been often remarked, that the little patients have generally enormous appetites, and as it would appear from the same cause, a deficiency of nutritious absorption, with this difference merely, that in the disease before us it is the veins that are diseased, whereas in *tabes mesenterica* it is supposed to be the lymphatics. But to return to our case,—this patient had, as I remarked, a very voracious appetite, by indulging which he brought on repeated attacks of constipation and colic. He then got diarrhœa and dropsy, for which he was tapped twice without any benefit. From observing that there was in this case an extraordinary supplemental circulation, leading to the inference that there was obstruction of the deep-seated veins; from



remembering that the appearance of the patient, and the more prominent symptoms coincided with those of a former case, in which obliteration of the porta had been discovered after death; from these circumstances, and the remarkable voracious appetite, M. Reynaud, under whose care the patient was, came to the diagnosis of phlebitis of the portal system, extending to and affecting the liver; and this diagnosis was subsequently confirmed by dissection. He was, however, unable before death to explain one symptom which was present; namely, the infiltration of the lower extremities. You are aware that when the general venous circulation is obstructed either in the chest or belly, we have anasarca of the lower extremities, but when the obstruction affects only the portal system, then we have ascites as the first phenomenon. If you had two cases of dropsical effusion, in one of which there was, *first*, œdema of the lower extremities, in the other, *first*, ascites, you could thus determine where the primary obstruction existed. M. Reynaud was at a loss to account for this symptom in the present case, as he had not observed it before in the other case, and as the swelling of the feet had preceded that of the belly. On dissection, it was found that the right branch of the porta had been obliterated by the growth of a yellow substance, somewhat like the middle coat of arteries; the same was found to exist in the corresponding hepatic veins, and the inferior cava was found obliterated to the distance of three inches from the left auricle. The left branch of the porta was pervious, the corresponding hepatic veins much enlarged, and the superficial epigastric veins inosculated freely with the intercostal and axillary veins.

The vena azygos was very much dilated; and, what is extremely curious, a large vein was seen to arise from the union of the sub-peritoneal branches on the convex surface of the liver; this passed through the diaphragm, and emptied itself into the cava close to its termination. Here we have an entirely new vein. It was also observed, that the sub-diaphragmatic veins were much increased in size, and apparently varicose; these passed through the diaphragm, and inosculated with the pericardial and superficial thoracic veins. Some of them ran up and opened into the great coronary vein of the heart, which was as large as the crural vein. The remaining peculiarities of this curious case were inflammation of the duodenum and gall-bladder. The cavity of the latter was half filled with purulent fluid.

I am fully convinced that I have seen instances of this disease, although I was not so fortunate as to have an opportunity of verifying the diagnosis by dissection. I have seen patients who had wasting of flesh, pain and tension in the region of the liver, and jaundice with this singularly varicose state of the external abdominal veins; some of them had ascites; and I recollect distinctly, that in one case the appetite was very great, and the patient had a tendency to diarrhœa. I am satisfied that in such cases you would be fully justified in making the diagnosis of obstruction of the portal system; and if, in addition, there was infiltration of the lower extremities, there would be a probability that the disease had extended to the cava itself.—*Ibid.*

25. *Singular Case of Pulmonary, Hepatic, and Intestinal Fistula.* By WILLIAM STOKES, M. D.—My lamented friend and instructor, the late Dr. William Cullen, whose loss to pathological medicine was irreparable, and whose splendid attainments and high character justly and rapidly raised him to an elevated rank in his profession, brought me to see a patient. One of the most curious circumstances connected with this case was, that when the patient sat up in bed, a fluid of a serous character was poured out in considerable quantity from the anus; but while he remained in the horizontal posture this did not occur. The patient died shortly afterwards; and on dissection it was found that he had a gangrenous abscess of the right lung, communicating with the pleural cavity, which contained a quantity of a sero-purulent fluid, and a mass of hydatids, some broken down, others perfect and entire. On continuing the dissection, it was found that the cavity of the pleura communicated with the right lobe of the



liver through the diaphragm. In the right lobe of the liver the same kind of sero-purulent fluid and a quantity of hydatids were discovered; and, what was still more extraordinary, the cavity in the liver was found to communicate with the colon by a distinct opening. There was then in this very remarkable case a direct communication between the bronchial tubes and the colon, through the pleura and liver. We can thus see that when the patient assumed the erect position, the fluid would immediately pour into the colon.—*Ibid.*

26. *On the Organization and Origin of Intestinal Worms.* By WM. STOKES, M.D. —(Extracted from his lectures on the theory and practice of medicine, delivered at the Medical School, Park street, Dublin.)—There are few subjects which possess so much interest in a physiological and pathological point of view, as that of intestinal worms; and in order to have correct notions, it will be necessary to be acquainted with the investigations of modern science on this subject. Worms are found in most classes of animals. They occur in reptiles, fishes, birds, in the different classes of quadrupeds, and in man. In man they do not exist in such abundance, nor so frequently as they do in birds and fishes. With respect to their places of habitation, we find them, first in cavities which have an external communication, and next, in the parenchymatous substance of organs; and we generally observe, that those which inhabit the cavities are different from those met with in parenchymatous parts. We observe, also, that the species existing in the different organs and cavities are not only different in their nature, but that there is a difference between the worms which inhabit separate portions of the same organ or cavity. In one part of a cavity or organ we find one species, in another a different, and this occurs almost invariably, as if it was regulated by a fixed law of the economy. A peculiar species of worm, occurring in man, called the *Distoma hepaticum*, is never found except in the liver or gall-bladder. If this animal had been introduced from without, it would certainly be detected in some part of the intestinal canal, but this is never the case. Rudolphi states, that the *Strongylus horridus* is to be met only in the œsophagus of aquatic birds, and the *Ascaris obtusa* in the stomach of mice.

Generally speaking, worms are of three different forms—cylindrical, riband-shaped, and vesicular. Their organization varies from the lowest scale, in which we can scarcely trace, as it were, the rudiments of an animal; beginning with the tape-worm, which presents little more than a cellulo-gelatinous mass, we ascend gradually until we arrive at a high degree of organization, where we find well developed muscles, a difference of sex, generative organs, and, according to some anatomists, a tolerably perfect nervous system.

Now, to remove all sources of doubt and error on this interesting subject, and to establish proper principles of treatment, let us examine into the origin of these animals. I shall confine myself to the consideration of the origin of those worms which inhabit the human intestines, as they are the only species which we have to do with as practical physicians.

You will at once perceive that worms must be derived from one of two sources; either as introduced from without, or formed originally within the bodies of man and other animals. It is maintained by those who are in favour of the first supposition, namely, that they are introduced from without that similar animals are to be found in the external world, and that they are introduced either in the form of ova, or in a state of perfect development, with the food or drink, or by the respiration of the animal. Observe, this doctrine is founded on the validity of the assertion as to whether animals similar to intestinal worms are to be met with in external nature. Linnæus states that he found the tape worm, and the small ascarides, a species now called *Oxyuris vermicularis*, in a marsh in Lapland: but Müller, a much more accurate helminthologist, has since shown, most satisfactorily, that Linnæus was completely mistaken, and that those he had observed are never found to exist within any animal whatever. There are many observations on record similar to those of Linnæus: but as they



were made at a time when Natural History was in its infancy, and as they have been disproved by the researches of modern zoologists, I shall not notice them. I believe there is no well-authenticated instance on record of tape-worms, lumbrici, or ascarides being found living in any situation external to the animal body. Every one of you, gentlemen, have seen worms in the intestinal canal, or recently discharged by stool or vomiting, but I will venture to say that not one has ever observed them in any article of food, in earth, or in water. Bremser, who is a high authority, makes a very pertinent remark on this subject. "We find," says he, "all animals most abundant in that situation which has been assigned to them by nature. Now, if these animals were accidentally introduced from without, we ought to find them more abundant in the earth, water; &c.; but the contrary we have seen to be the fact."

But it is contended that these animals may have been introduced from without, and that in consequence of a change in situation, nutriment, and other circumstances, their forms may be altered; and it is argued in support of this hypothesis, that external circumstances will and have been observed to change the forms of plants and animals in a very remarkable degree. In addition to this it may be said that an alteration in the nature of its food may even produce an actual change in the function of the animal. It is a singular fact that neuter bees may be made prolific by changing their food; it is shown that when a queen bee dies or is lost, the neuter bees take a grub of their own species in place of her, and by feeding it in a particular manner, it becomes capable of laying eggs.

Now supposing that intestinal worms are introduced in the form of ova into the human body, there is no reason why this sudden, remarkable, and complete change should take place. We see nothing similar to it in nature. The plant which springs from any particular seed will resemble that from which it derives its origin; the egg of any particular bird, no matter in what way it may be hatched, will produce an organized being similar to its parent. The form and character of the animal are given during the act of generation, and remain unchanged.

Again, admitting that a difference in circumstances and nutrition might produce a total change in form, it should be in our power to demonstrate the individual in the process of transition; we should find those animals in a state half between what they were and what they are, and this state we should observe of very frequent occurrence. No such thing however has been ever demonstrated. Out of a vast number, Bremser did not find a single one in any stage of transition, nor has it been demonstrated by any zoologist. He also states expressly, that after having diligently examined 15,000 specimens of worms in the cabinet at Vienna, he never was for one moment at a loss to say which were intestinal worms and which were not. If there was any such transition it would have been discovered, but no such thing has ever been observed.

It appears then obvious that there is no direct evidence to prove that these animals have been introduced into the body from without, either in the form of ova or in a state of perfect development. We have nothing then, I think, but to come to the other conclusion, that they originate within the body, and this seems to be the opinion of the best physiologists and pathologists. This doctrine appears to be almost brought to a demonstration by the following facts. First, it appears that the worms which have been found in man and animals have a peculiar structure and organization, differing materially from that of the worms which inhabit the external world. This is a point admitted by almost every modern writer on natural history. In the next place we find that the worms of certain animals present peculiarities differing from those of the same species in others. Thus the bothriocephalus and tænia solium in man differ from those of other animals. You are not, however, to conclude from this that every animal has its peculiar worms, for such is not the case. Thus the lumbricus and small ascarides of man are found to exist in various animals, both carnivorous and graminivorous.



It appears obvious, that if worms were introduced from without, we should not find peculiar worms in the bodies of certain animals, yet taking a certain number of different animals living on the same food and in the same situation, we find a difference in the nature of the worms which are met with in the bodies of each. Another important fact is, that worms are to be found not only in the intestinal canal, but in almost every part of the body. We find them in the cellular tissue, in the liver, gall-bladder, lungs and trachea; in the brain, heart, kidneys, and spleen. They have been met with in the air-bladders of fishes; and Treuter states that he has found the *polystoma pinguicola* in the ovaries of a woman which were steatomatous, and the *strongylus* in an aneurism of the mesenteric artery of the horse. These animals have been observed in the anterior chamber of the eye in birds and horses, and there are innumerable examples of their occurrence in situations equally strange and anomalous. Another circumstance already mentioned, and which must be coupled with the fact just alluded to, is that there are certain species of worms which occur only in the same organs, and are never met with in any other situation.

Now observe the importance of these facts---we find that worms not only exist in the digestive tube and parts having an external communication, but also in the very substance of deep-seated viscera, and that the worms which are found in the various cavities and organs are peculiar to them. In one case we find a worm in the digestive tube, in another in the brain, in a third in the liver, in a fourth in the pulmonary apparatus, but no one has ever been able to demonstrate the trajet of a worm from one of these cavities or organs to another. It would be ideal and absurd to say in the case of worms found in the substance of viscera, that they had been introduced from without or came from the intestinal canal. The *distoma hepaticus*, which is found in the liver and gall-bladder, might be supposed to arrive at those situations by passing along the *ductus communis choledochus*, but in the various cases in which it has been found, it has never been detected in the intestinal canal, and this, I think would not have been the case if the digestive tube had been its original situation. One of the most important facts which have been stated is, that certain forms of these animals are found invariably in certain situations, and this has been observed not only in man and other animals of the class *mammalia*, but also in reptiles and fishes. In man we generally find the *lumbricus* inhabiting the stomach and small intestine, the *tricocephalus* in the *cæcum*, and the small *oxyuris*, or thread-worm, in the rectum. The preparation before me exhibits a specimen of the rarest form of worms which inhabit the intestinal canal, the *tricocephalus*. Here is the *cæcum* filled with these singular worms. The males are distinguished from the females by the whirl of the tail. If these little animals or the *oxyuris* had been introduced from without, we should expect to find them in various parts of the intestinal canal, but we find, on the contrary, that their situation is separate and distinct.

Lastly, *intestinal worms have been found in the fœtus both of man and other animals*. Kerking describes a fœtus, the intestinal canal of which contained a vast quantity of small worms, and another of six months, in whose stomach a large *lumbricus* was found. Rudolphi, Blumenbach, and others of nearly equal authority, have recorded abundance of examples of worms existing in the fœtuses of various quadrupeds, *and also in those of birds which had just broken the shell*. Those who are obstinately attached to the doctrine that worms are introduced from without, have gone so far as to assert, that the ova of the worms have been transmitted at the moment of generation, a doctrine so absurd that it is unnecessary for me to enter into any refutation of it.

With respect, then, to the formation of worms in animals, we cannot help coming to the conclusion that they are originally formed within the body, and that, in fact, there is an original generation of these animals, the result of one organization taking place within another,—the production, in fact, of a distinct being. This idea does not appear so difficult of conception when you recollect that circumstances analogous to it are extremely familiar and of almost



constant occurrence. There is not much more difficulty in conceiving the formation of a living worm within the body, than there is of conceiving the organization of a portion of lymph thrown out upon the surface of a serous membrane. What occurs in both cases is, that under the influence of the vital principle of the original animal, a portion of matter previously inorganic, assumes the properties of life, presents distinct traces of organization, vascularity, and sensibility. The only difference between them is, that in one case the organized mass remains adherent to the matrix, and in the other it is cast off, and forms a separate being. In the present state of our knowledge all speculation on the mechanism of the formation of worms must of necessity be nothing more than mere hypothesis. The idea which Bremser entertains on this subject is, that *intestinal worms* are formed by the presence of semi-assimilated nutritious matter in the digestive tube. Food taken into the system under ordinary circumstances, is converted into a substance fitted for the purposes of absorption and nutrition, but when the process is not perfected, it is not taken up by the absorbents, and is then, according to Bremser, converted into an animal substance. This appears to be but a crude idea, unsupported by any facts; and it would be more philosophical to say that we know nothing about the matter. Besides, worms occur in various parts of the body, as well as the digestive tube; and to suppose the presence of unassimilated matter in such situations would be only supposing an absurdity. Bremser brings forward, in support of this theory, that worms are of very frequent occurrence in cases where the assimilating powers are weak or deranged, and says that nothing is more common than to meet with an abundance of these animals in scrofulous persons, in those who have great appetites and bad digestion, and in children labouring under disease of the mesenteric glands. On the other hand, there are abundant instances of worms existing without the slightest apparent injury to the general health. In certain countries almost all the inhabitants have worms. But I believe all that we can affirm on this subject is this,—that they are not introduced from without, and that they are formed within the body by a process, the nature of which is exceedingly obscure.—*Ibid*, May 3d, 1834.

27. *Pathology of Intestinal Worms.* By WM. STOKES, M.D.—Can we connect the formation of intestinal worms with any known pathological condition of the intestinal tube? This is a question of no ordinary importance, for if we were able to connect their formation with an inflammatory or any other state of the digestive tube, it would furnish us with a key to correct and successful treatment. The school of Broussais are of opinion that worms are the result of an acute or chronic inflammation of the gastro-intestinal surface. This doctrine is by no means supported by the evidence of facts, for it has been established that worms are found to exist not only in connexion with every possible pathological condition of the intestinal canal, but also where the tube presented the appearance of perfect health. We cannot, then, safely affirm that intestinal worms are connected with an inflammatory or non-inflammatory condition of the digestive tube. Andral states that he has found them in all conditions of the intestine, whether red or pale, dry, or covered with mucus. They are most commonly, he says, enveloped in a quantity of mucus, and there is some redness in the place where they are lodged, but this appears to be rather the effect of their presence than the cause. I believe it to be the fact, that persons in excellent health, and with the intestinal canal in the normal state, may have worms. Dogs who are killed while in a state of apparently perfect health, are often found to have a large quantity of tape-worm in their intestines. It is idle and hypothetic to say, that the formation of worms depends upon an inflammatory or non-inflammatory, an asthenic or sthenic condition of the digestive tube; their formation is owing to some modification of the vital power, the nature of which is unknown. I again repeat, that nothing can be stronger against the supposition that worms depend upon inflammation, than the fact of their being observed in considerable quantities in healthy individuals.—*Ibid*.



28. *On the supposed Power of Worms of Perforating the Intestines.* By WM. STOKES, M. D.—This question which is an interesting one in many points of view, has been lately the subject of medico-legal discussion, and therefore demands a share of our attention. Of the different kinds of intestinal worms, the only one which is supposed to be capable of perforating the coats of the digestive tube, and escaping into the peritonæum or some adjoining organ, is the lumbricus, which is remarkable for its vigour and for the sharp and pointed shape of its head and tail. Many of the most eminent pathologists of modern times, and among the rest Andral, Rudolphi, and Carswell, are of opinion that these worms are totally incapable of perforating the intestinal tunics. Andral states, that there is no well-authenticated instance of this occurrence on record; and Rudolphi declares that they have no apparatus for effecting a passage through any continuous tissue. On the other side of the question, however, there are some curious facts and cases given, which, supposing that worms are incapable of perforating, are very difficult to explain. Dr. Fischer, of Vienna, gives the case of a female, in whom the following circumstances were observed on dissection. Two circular orifices were found in the colon, communicating with the cavity of the peritonæum; in one of these openings a worm was discovered, one-half of which lay in the peritoneal sac, the other in the intestine. No other worms were found in the digestive tube, but a second worm like the former was found in the peritonæum. Here we have a very remarkable coincidence of perforation of a portion of the gut, with the existence of one worm in the cavity of the peritonæum, and another of a similar description, as it would appear, in the act of making its way in the same direction. These circumstances, together with the existence of a double perforation, seem to be in favour of the idea, that the openings had been made by the corresponding worms. Another case is mentioned in the *Elements of Pathological Anatomy*, by Andral, and he quotes the case, not as one of perforation merely, but to show that the symptoms of effusion of matter into the peritonæum may, under certain circumstances, be nearly latent. The subject of this case, a young man labouring under phthisis, had a tumour near the umbilicus, which increased rapidly in size, and presented a distinct fluctuation. Soon afterwards the integuments gave way, and a large quantity of matter was discharged together with a lumbricus. During the progress of this disease there was some tympanitis, but little or no pain had been complained of. On dissection there was a considerable number of worms, and a quantity of matter found in the peritonæum, and a perforation in the arch of the colon, corresponding with the extravasated matter. Bremser gives a very curious instance of this kind as occurring in a species of fish. In this case the fish died, and it would appear says Bremser, that the worm finding some extraordinary change had taken place, was determined to take a peep and see what was the matter, for it had perforated not only the intestinal tube, but actually made a passage for itself through the whole body of the fish until it reached the water in which it had been lying. Here, finding that its world extended no further, it stopped, and began to make its way back again to its original situation by a new opening, so that when it was observed by Bremser the two ends were in the intestinal tube of the fish, and the middle portion external. This, however, does not resolve the question, as to whether lumbrici are capable of perforating the intestinal canal or not. My own impression on the subject is, that we have not as yet any distinct and unquestionable evidence of these worms being possessed of any perforating power; but it is a fact, that there are a great many cases on record of worms being discharged in considerable quantities from openings in the intestinal tube, and where it would appear that the openings had been formed, not so much by the action of the worms themselves as in consequence of their exciting an irritation in some portion of the intestine, followed by inflammation, ulceration, and escape of the contents of the tube into the peritonæum. There are many instances of this kind. An interesting case is mentioned of a female who was attacked with pain in the groin, followed by the appearance of a tu-



tumour, which she was directed to poultice by her medical attendant. After some time the integuments gave way, a quantity of matter was discharged, followed by a large lumbricus, and during the progress of the case, about one hundred of these animals were discharged through the opening. This is a well-authenticated case. Another case is mentioned of a patient who had been subject to constipation and violent attacks of colic. A tumour began to appear in the right hypochondrium, followed by pointing and ulceration of the integuments and a discharge of matter. A number of worms, (I believe twenty-four,) were discharged through the opening, which remained pervious, and the patient lived for many years afterwards with an artificial anus. This case appears to be not an example of direct perforation from worms, but of the accumulation of a mass of these animals in a particular portion of the intestine, giving rise to irritation, which terminates in ulcerative absorption of its tunics and escape of its contents. Inflammation is set up in some part of the intestine, this goes on until the coats are all destroyed, and the matter and worms escape into the peritoneal cavity; but if adhesion should prevent this, an opening will be formed in some part of the integuments covering the belly. In both cases the opening is produced, not by an exertion of the worms, but by an ulcerative and vital process. In support of this view, it has been observed, that worms have come out through these apertures not head foremost; the centre portion appears first, and you can draw it out like a loop. Such cases as the foregoing, then, cannot be fairly given as cases of perforation from worms, but as cases in which these animals, acting somewhat like foreign bodies, produced irritation, inflammation, and ulcerative absorption. There is a very curious case on record, of a patient labouring under abscess of the liver, which burst externally, and a lumbricus was discharged with the matter. The patient died; and on dissection it was found that the cavity of the abscess had a communication with the stomach, through which it was conceived that the lumbricus had got into the liver.—*Ibid.*

29. *Worms which inhabit the Intestinal Canal in Man.* By WM. STOKES, M.D. The worms which inhabit the intestinal canal in man are the following:—first, the lumbricus, or common round worm; next, we have the tape-worm, of which two varieties have been described; thirdly, we have the very curious worm, of which there is a specimen before me,—it inhabits the cæcum, and is called tricocephalus; lastly, we have the thread-worm, to which the name of oxyuris vermicularis has been lately given. The lumbricus generally inhabits some portion of the small intestine, but is also frequently found in the stomach. Persons have often vomited them, and they have been known to have crept out by the mouth. They have been found also in the pharynx, œsophagus, and large intestine. There is an interesting case mentioned by Andral of a child, who, in a state of apparently good health, was suddenly seized with symptoms of suffocation, and died. On dissection, it was found that a large lumbricus, which had come up from the stomach, had, when it arrived at the glottis, turned into its orifice, and, by irritating the larynx, produced spasmodic closure of that organ, and suffocation.

The lumbricus presents very marked appearances of an advanced state of development. The male has a peculiarly formed penis, the female has her generative organs well developed, and both have an extensive alimentary canal. The tricocephalus is about an inch in length, terminating in a point; the sexes are different, and the male is distinguished from the female by the circular whirl of his tail,—it is always found in the cæcum. The small thread-worms, with which you are all acquainted, are almost exclusively found in the rectum. These worms are found in vast numbers in some children; and it is said that the quantities of them which are discharged by the West Indian negroes are extraordinary.

The tenia, or tape-worm, is generally found in the small intestine; but it has also been observed in the stomach, colon, and rectum. The length to which



this animal sometimes attains is almost incredible. Bremser mentions a case in which a tape-worm 150 feet in length was discharged by stool. Another case is given, in which the tenia had the enormous length of 300 feet. I have myself seen a large wash-hand basin filled by a mass of tape-worm, discharged after a strong dose of castor oil and turpentine. Still more extraordinary instances are recorded. Thus, in the Copenhagen Transactions we read of a tape-worm eight hundred ells in length. But in all probability there has been an error in these measurements, and many worms have been taken for one. This is rendered probable by the fact observed by Robinus, who found in the body of a man who had before death discharged fragments of tape-worm, a tape-worm extending from the pylorus to within six inches of the anus. The length of this single worm was scarcely thirty feet. One interesting circumstance connected with this animal is, that it is inferior in its organization to every other species of worm. It appears to be nearly a simple homogeneous, cellulo-gelatinous mass, without any division of sexes, and without a nervous system, or generative organs. It is said also to occur principally in persons whose powers of life are low; and if this be the case, as I believe it is in many instances, it furnishes us with a very curious and interesting fact. The other better developed kinds are found in persons of healthy, good constitutions; but the tape-worms, though sometimes met with in such persons, are generally found to occur in persons of low and weak diathesis. Here we see a curious connexion between the product and the producing cause.—*Ibid.*

30. *Symptoms of Intestinal Worms.* By WILLIAM STOKES, M. D.—It is a singular fact that we have not one single pathognomonic sign of the existence of intestinal worms, except the circumstance of their being occasionally passed by stool, or vomited; almost all their symptoms are referable to irritation of the gastro-intestinal surface, and its sympathetic relations. Persons, who are much subject to worms in these countries, are generally of a pale complexion, with a bluish circle round the eyes: the belly is more or less prominent, and there are various signs of irritation of the digestive tube, with itching at the nose and anus; head-ache; foul breath and tongue; irregular and sometimes canine appetite, nausea, hiccup, borborygmi, tenesmus, diarrhœa, and constipation. Though the patients take abundance of nutriment, they are generally thin and pale, and in such cases there is either one or two very large worms, or a great number of smaller ones, or their presence is complicated with disease of the intestinal canal. Such persons are also observed to be of an indolent and languid habit; they have perspirations, disturbed sleep, with grinding of the teeth, and irregularity of pulse.

The sympathetic irritations, produced by worms, are numerous and extraordinary. The genital organs may be excited, and we may have priapism and seminal emissions in the male, and irritation amounting to nymphomania in the female. There is a very singular case on record of a female, aged seventy, being seized with a violent attack of nymphomania from this cause. The nervous affections, produced by worms, are so Protean and so numerous, that it would be almost impossible to detail them; in fact, there is not a single nervous disorder which may not be simulated by the sympathetic irritation of worms. Epilepsy, hysteria, convulsions, dilatation of the pupil, amaurosis, symptoms of hydrocephalus, and even mania are among the affections of the nervous centres, or their immediate connexions, which, in repeated instances, have been found to depend on the presence of worms. Kraus gives an extraordinary case of a man, who, at a very advanced age, became subject from this cause to fits of continued and inordinate laughter.

There is another case on record of convulsions depending on worms, which, like those from the bite of the Tarantula, are said to have been soothed and relieved by music. Hufeland, in his journal, mentions a case of yellow vision from the same cause, and there are several instances of aphonia and mania on record, which have yielded to treatment which had removed intestinal worms.



A case is mentioned of a person who got violent spasmodic action of the muscles of the eye, producing inversion of that organ to such a degree, that the eyeball appeared to be nothing more than a mass of red flesh. A case is recorded by Serres, in which the symptoms strongly resembled those of hydrophobia, and it is probable that some of the cases of hydrophobia, said to have been treated successfully, were nothing more than this extraordinary irritation of the nervous system produced by worms. I saw myself a case, in which two eminent physicians made the diagnosis of hydrocephalus; it was that of a child who was certainly to all appearance labouring under cerebral disease, for he had convulsions, coma, and dilated pupils. It was remarkable, however, in this case, that the treatment directed to the head, though early and well applied, proved totally inefficacious. A large dose of calomel was given, and some lumbrici passed; in the space of two or three hours there was an evident improvement, and the child quickly recovered.

During the course of practice I have met with several examples of affections of the respiratory organs, depending upon the irritation of worms. This affection has been long known. I recollect the case of a boy who was brought to me with an extraordinary affection of the chest. He was of a gross habit of body, of a flabby scrofulous appearance, and labouring under disease of the elbow-joint; but his chief complaint was, that he passed the night in great distress from incessant cough and wheezing. On examining the chest, I found the respiration healthy, and no other symptom of pulmonary derangement except very slight bronchitic râle. On expressing my opinion of the case to the mother, she said that he was easy during the day, but that his condition was very different at night. To ascertain the truth, I took the child into the hospital, and found that her statement was substantially correct; for from four o'clock in the afternoon until next morning, he was in a state of perfect orthopnoea, with loud, ringing, incessant cough. During the rest of the day he was free from cough, and tolerably quiet. The case was treated with calomel and ipecacuanha, tartar emetic and other similar remedies, but the disease was rather exasperated than improved. The boy had swelled belly and constipation, and for this he was ordered to take a dose of turpentine and castor oil. He passed some worms with relief to the existing symptoms, and from the consideration of this, and the failure of the treatment for bronchitis, we were determined to persevere in the use of anthelmintic medicines, and, for this purpose, put the child on syrup of cowhage, to be followed by castor oil draughts. He passed vast quantities of thread worms in the course of a few days, and when they had been all removed the cough disappeared altogether, but as long as any of them remained, the symptoms of pulmonary irritation continued. There could be no doubt that this was a case of intermittent bronchial irritation from worms, for their evacuation was immediately followed by a complete cessation of cough and dyspnoea. I have also, since the foregoing, met with many other instances of a similar description. A young girl came into the Meath Hospital with chronic bronchitis and some degree of hepatization at the lower part of the left lung. Having heard from her friends that she was extremely subject to worms, I determined to try what would result from the use of anthelmintic medicines, and put her on the syrup of cowhage with aloetic pills. Under this treatment the cough was quickly removed, and the lower portion of the lung recovered its permeability. Here, it was remarkable, that not only irritation of the bronchial mucous membrane, but even solidification of the lung, were cured by treatment calculated to remove worms. Mr. Ramsay, in his paper published in the *Medico-Chirurgical Transactions*, gives several cases of hæmoptysis from this cause. I think I have seen several cases of phthisis, where the original source of pulmonary irritation seemed to be the existence of intestinal worms.

Let me here, however, remind you, that we should be cautious in attributing too much to worms as the causes of morbid symptoms. There are several reasons why you should be on your guard in this respect, one of the most obvious



of which is this,—it does not follow, in the first place, that the symptoms in any particular case are produced by worms, because the same cause, which may have predisposed to the formation of worms, may have produced the symptoms in question, and there may be merely a coincidence of worms and of these symptoms. Even if we look to the results of treatment, there is a great deal of doubt and difficulty. There are many cases on record which are described as cases of epilepsy from worms, and where all the symptoms have subsided under the use of anthelmintic medicines. In many of these cases we find the medicine chiefly employed has been oil of turpentine, and I need not tell you, that this is an excellent remedy in many cases of epilepsy totally uncomplicated with worms. The results of such cases do not necessarily prove that worms were the source of irritation. Again, immense injury is frequently done to children in persisting in the anthelmintic treatment for the supposed existence of worms. Recollect, the prominent phenomena of worms in the intestines are irritations of the digestive system and of other functions. Now, it is very well known that these symptoms may occur with or without worms. If, then, you have a case where these phenomena are present without the coëxistence of worms, and if, under a mistaken impression, you treat it with anthelmintic medicines, you inflict a double injury; you exasperate the original disease by the drastic and irritating medicines which are ordinarily used for the removal of worms, and you do an indirect injury by neglecting to adopt proper means of treatment. There is nothing more common than to see children labouring under some irritation of the digestive tube, which is mistaken for worms, purged again and again until they get incurable enteritis or tabes mesenterica. When a child has foul tongue and breath, picking of the nose, diarrhœa, and turbid urine, it is a common notion that he is labouring under worms. If he gets feverish, it is said to be the worm fever, and the anthelmintic treatment is pursued with unabated vigour. Now, I believe that a great majority of such cases are in reality disease of the mucous surface of the intestine, and that the consequent feverishness is dependent on this state. Another reason why you should be cautious is this,—in persons of an hypochondriac habit, there is nothing more injurious than their getting the idea that they have a worm in their bowels. When once this notion gets into the head of an hypochondriac, it is generally impossible to eradicate it. Some of the most melancholy and fixed cases of hypochondriacism are produced in this way; every symptom is attributed to the worm, the patient is in a state of constant feverish anxiety about it, he talks of nothing else, and is constantly taking medicines to expel it, to the great detriment of his general health, and with a manifest exacerbation of his symptoms. Medical men should be extremely cautious on this point. The patient is perhaps a female of hypochondriac and nervous habit; she has gnawing sensations about the epigastrium, which she supposes to depend upon the presence of a worm, and an injudicious practitioner favours the notion. He gives her various medicines to expel the worm; no worm is passed; she becomes more anxious, takes more medicine, and gets weak and emaciated. She then begins to think that all the nutritious matter in her body is going to support the worm, falls into a desponding state, and continues for the rest of her life an incurable hypochondriac.—*Ibid*, May 10th, 1834.

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31. *Causes of Worms.* By WILLIAM STOKES, M. D.—Our knowledge is very scanty and inaccurate respecting the exciting causes of worms. The following, however, are generally looked upon as remote causes:—foul air, residence in damp and unhealthy situations, sedentary habits, and want of wholesome exercise, overfeeding, the constant use of certain articles of diet, as farinaceous substances, milk, cheese, sugar, &c. An eminent authority, (Bremser,) asserts, as I have already stated, that unabsorbed chyle in the digestive tube constitutes the most fertile source of worms. It is a common idea, that poor diet has a strong tendency to give rise to the formation of these animals, but it has been frequently observed that worms are met with in persons who are by no means



in want of nourishment; and it is said that in cases where nutrition has been diminished in man and other animals the worms die. If this be the case, it would appear that, so far from being the exciting causes of worms, poor diet rather tends to favour their removal. Uncooked vegetables and fruits are also reckoned among the causes of worms, but I believe this arises from the mistaken notion that the ova of intestinal worms occur in vegetables, and, being taken with them into the stomach, are there developed, or even changed in their organization, a position which we have already proved to have no foundation in truth. Persons who live principally on vegetable food have not been observed to labour under worms in a comparatively greater degree than those who use an animal diet. It is said that the Swiss, who consume a great deal of vegetables, are very subject to worms, but other nations who live in a similar way have not been remarkable for the same liability.

Worms have been stated to be occasionally epidemic. It is not very easy to determine this point, but it has been remarked, that at particular periods these animals have been more than usually frequent and numerous. Many authors have described an epidemic of what has been called *verminous fever*, that is to say, fever of a gastric or bilious character, accompanied by worms in quantity. It is hard to say what the nature of this fever really was, and whether it might or might not be fever with irritation of the digestive apparatus, one of the consequences of which was a discharge of worms already existing. That worms are endemic, is a proposition very easily conceived, for we see it illustrated by the extraordinary prevalence of these animals in sheep which are kept in low, damp pastures. In such situations worms are met with in great abundance in the liver and other parts of these animals.

It would appear, from the following remarkable case, detailed by Bremser, that the use of milk and farinaceous food predisposes to the formation of intestinal worms. This gentleman, who was physician to a monastery, and had ample opportunity of studying the habits of its inmates, was called to visit one of the oldest of the monks, who was said to be labouring under great derangement of the digestive system. On inquiry, he found that the patient had lived for sixty years in excellent health, using animal food, which, however, he had been latterly induced to change for farinaceous diet and milk. For a few days this agreed tolerably well with him, and then he began to be tormented with colicky pains, flatulence, sour eructations, and other distressing symptoms. His physician gave him some purgative medicine, and he passed a large quantity of tape-worm with relief; the treatment was persevered in, his former mode of living resumed, and he recovered quickly. This case bears strongly against the fanciful hypothesis that the ova of worms are transmitted in the act of generation; for how could it be possible that the ovum of this tape-worm, transmitted in this manner, could remain undeveloped in the system for the space of sixty years! This case derives additional interest from the fact of a change to a farinaceous diet being apparently connected with the formation of worms.

Another remarkable case is given by the same author. The patient was a married female who had twelve children,—six boys and six girls. This woman observed, that whenever she was pregnant of a girl, she had a greater longing for milk and farinaceous food, and lived on those articles of diet almost exclusively. After living in this way for some time, she uniformly got an attack of worms, and this, as well as the longing for vegetables, coincided with the birth of a female child so invariably, that she was able to tell with certainty whether the child she carried was a male or a female. This is a singular and well authenticated fact.—*Ibid.*

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## DIAGNOSIS.

32. *Diagnosis of Inflammation of the Spinal Dura Mater.* By Professor ALBERS, of Bonn.—From two cases observed by himself, as well as from analogous cases related by other practitioners, Professor Albers is of opinion that inflammation of the spinal dura mater may be distinguished by characteristic



symptoms from inflammation of the spinal arachnoid and spinal marrow, with which it has hitherto been confounded. These symptoms are, 1st, acute pain extending to the lower limbs and lower parts of the body; 2d, convulsive motions of different parts; 3d, tremors; 4th, difficulty of expelling urine and fæces; 5th, sensation of constriction around the body. The professor explains these different phenomena in the following manner:—

1. The *acute pain* in the parts situated below the seat of the inflammation was noticed in the two cases reported by the author, as well as in the first observations of M. Funk. This symptom has been repeatedly noticed in cases of tetanus. The pain is usually accompanied with a sense of pricking and tearing; and these distressing feelings are in most instances referred to the epigastrium, hips, and thighs. In very severe cases so acutely sensitive may be certain parts that even the slightest touch causes excruciating pain and cramps. Now this symptom, or rather chain of symptoms, is not observed, when the arachnoid and pia mater, or when the substance of the medulla itself is affected: under these circumstances, after the pain and convulsive movements have continued for some time, a paralytic weakness usually supervenes. On the contrary, paralysis is certainly not a common result or effect of inflammation of the dura mater, unless the disease has involved the parts situated within its sheath.

2. *Convulsive movements*.—When the cervical portion of the spinal dura mater is affected, the muscles of the face and neck are usually drawn into irregular contractions, along with those of the chest and abdomen. The upper extremities are affected more tardily, and sometimes not at all, until a few days before death. It is not, however, unfrequent that severe and irregularly returning pains are felt from the shoulders down the arms; certainly the upper extremities are more generally affected than the lower, when the disease is situated in the cervical region. When the whole extent of the cervical section of the medulla is inflamed, the upper extremities are almost certainly affected; but when the inflammation is limited to its inferior portion, they may escape altogether, or exhibit only a trembling movement or agitation, while the lower limbs are all the time contracted with tetanic spasms. Sometimes the arms are spasmodically affected, while the thighs and legs are paralysed. Under these circumstances, we may expect to find on dissection an effusion of reddish serum within the sheath of the dura mater, at its lower part. As long as the quantity of this serum is small, it may act as an irritant on the cauda equina, and may thus cause convulsions of the inferior extremities; but when it becomes more abundant, it induces, in consequence of the compression, partial or total paralysis.

Professor A. remarks, that the tetanic convulsions which attend inflammation of the dura mater are almost always of the “tonic,” and very rarely of the “clonic” kind. The cause of the persistence and intensity of the spasm is no doubt attributable to the irritation which the diseased envelope exercises on the contained medulla, being constant and not remitting. “Now, this is not the case when the medulla itself or its immediate coverings are affected. The state of high excitement lasts but for a short time; hence the violent convulsions are either from the exhaustion of the nervous energy, or from the compression on the nervous mass, speedily followed by paralytic weakness. On the other hand, this state of paralysis seldom occurs in inflammation of the dura mater, except for a few hours before death.”

3. *Tremulous agitation of different parts of the Body*.—This symptom is usually most conspicuous in the early stages of the disease, when the patient attempts to walk. He finds that he cannot keep his head steady for a moment, and that his arms, body, and legs are in a constant tremor. This is one sort of the “paralysis tremens” of Dr. Cooke. It may be observed, that the involuntary action of the muscles we are now alluding to, always ceases when the patient is in the horizontal position. As the disease lasts, this symptom becomes less and less distinctly marked, and either disappears altogether, when a favourable termination may be anticipated, or it is succeeded by a tetanic stiffness or



contraction of the limbs. As soon as tetanus begins to appear, the tremulous agitation ceases.

4. *Difficulty in expelling the Urinary and Alvine Evacuations.*—In general, the paralytic affection of the bladder precedes that of the rectum; and, indeed, the latter viscus is sometimes but little affected till within a short time before death. The true nature of the urinary local distress is not unfrequently mistaken at first, and it is only when the bladder has become enormously distended, that the practitioner is made aware of the existing evil.

5. *The Feeling of Constriction round the Body.*—When the cervical portion of the medulla is inflamed, the sense of constriction is usually experienced round the lower part of the thorax, extending from the dorsal vertebræ to the epigastric region. When the lower part of the dorsal, or when the lumbar division is the seat of the disease, this symptom is remarkable chiefly in a line, running almost parallel to the anterior and superior crista of the os ilii. The sense of constriction is not unfrequently accompanied with positive pain; it is always an unfavourable sign, as it indicates the intensity of the inflammatory action.

When once established, it is, even under the most fortunate circumstances, very obstinate of removal.

In concluding these remarks on inflammation of the spinal dura mater, we may state that the functions and faculties of the brain may remain uninjured, under the most serious disease of the medulla spinalis.—*Archiv. Générales, Sept. 1834, from Graefe und Walter's Journal, XIX. 3.*

33. *Frottement observed in Peritonitis.* By Professor BEATTY.—As any thing that can contribute to our means of discovering diseases of the heart, must be looked on as in the highest degree interesting to the practical physician, it has occurred to me, that a notice of some cases which have come under my observation, although not of disease of the heart, may serve to corroborate the views so ably set forward and maintained by Dr. W. Stokes, in his paper on the diagnosis of pericarditis, in the fourth volume of this Journal. It is there stated, that the opinion broached by Collin, in 1824, and which had gained no credence for nearly ten years, is founded in fact, and that we have a physical sign of inflammation of the serous lining of the pericardium, viz. a “frottement,” or sensation of rubbing together of two uneven surfaces, distinguishable by the application of the hand, and by auscultation. The cases furnished by Dr. Stokes, in illustration of this point, are most interesting and instructive, and accompanied, as they are, by his judicious observations, must be considered as opening a new field in the departments of practical medicine and pathology. With a view to show that similar effects are produced in the peritoneum, when that membrane is the subject of inflammation, I have been induced to forward the present communication.

In January, 1832, a woman aged thirty, was admitted into my ward for the diseases of females in the City of Dublin Hospital, labouring under dropsy of the left ovary. The tumour filled the abdomen from the pubis to the ensiform cartilage, and was remarkably hard and unyielding. A few days after admission she was attacked with severe pain in the belly and febrile symptoms, which continued for a week, and required the abstraction of blood, and other antiphlogistic treatment, before she was relieved; during which time a remarkable sensation was communicated to the hand when applied over the umbilicus and its neighbourhood. The sensation was that of a grating or rubbing together of two uneven and rather dry surfaces, and was rendered most evident by ordering the patient to take a full inspiration, thereby causing the abdominal parietes to move more freely over the surface of the tumour. By the application of the stethoscope, a loud and distinct “frottement” was audible, extending over a space of about five inches in diameter, with the umbilicus for a centre. In a few days the pain and inflammatory symptoms subsided, under the treatment employed, and with them, the sensation just described, and the audible phenomena altogether disappeared.



In the December following, I had an opportunity of observing similar effects, in the case of a young lady, who was under my care for excessive enlargement of the spleen. The tumour occupied the left half of the abdomen, dipping down into the pelvis on that side, and its anterior edge passed the median line of the body, particularly at the lower part, where it extended considerably into the right side. She was seized with inflammation of the tumour, and during its continuance, phenomena precisely similar to those described in the last case were perceived; there was the same creaking sensation when either the hand or the stethoscope was applied to the surface, and this entirely subsided when the inflammation and pain were arrested.

It would appear that this method of diagnosis of disease of serous membranes is applicable only in those situations, where one, at least, of the opposed surfaces is adherent to a solid resisting body. I am not aware that phenomena, such as have been mentioned, can be perceivable in inflammation of the peritoneum, under ordinary circumstances, where the soft pliable walls of the abdomen are in contact with the mass of intestines; but when a large solid tumour comes to occupy the cavity, as in the instances above mentioned, the case resembles that of the pericardium with the heart within it, and similar physical signs of disease of the serous surfaces become apparent.

It has appeared to me that these cases may be employed as confirming the truth and accuracy of the diagnosis of pericarditis, and with that view I wish to record this brief notice of them.—*Dublin Journal of Medical and Chemical Science*, September, 1834.

#### ETIOLOGY.

34. *Of the Influence of Professions upon Phthisis Pulmonalis.* By M. LOMBARD, of Geneva.—In the list of the professions which dispose to phthisis, all are enumerated with the exception of three or four, and these have been noticed as preventing the disease, viz. butchers, coal miners, fish mongers, and tanners. The author of this memoir, M. Lombard, of Geneva, judges that this list might be greatly enlarged. At first, by analyzing the bills of mortality collected in the hospitals of several large cities, and the observations collected in the official records of Geneva, he classes the professions into two series, according as they number more or less than 114 phthisical cases in 1000 deaths. After many calculations, intended to expose apparent contradictions, furnished by the statistics of different countries, and of the various trades, he concludes that the following professions have been improperly classed among those which dispose to phthisis. On the contrary, they appear rather to be opposed to its development: lawyers, dyers, founders, stocking-makers, bleachers, bakers, quarry-men, chandlers, brasiers, gilders, blacksmiths, miners, porters, locksmiths, and wharf-porters. Passing to examination of the causes which produce these results, M. Lombard at first notices the state of ease or poverty which the different professions imply or suppose, and he concludes that the poorer classes are ten times more accessible to phthisis than those who are situated in ease and comfort. He then passes to muscular exercises. A sedentary life causes a much greater number of cases of phthisis than an active life. The sedentary professions give as a mean number of phthisical cases, 141 in 1000 deaths. Whereas the active professions, in the same number of deaths, only give 89 cases of phthisis. The exercise of the voice is not, notwithstanding the general opinion, a circumstance which assists the development of phthisis. If there are some persons who experience the bad effects of the constant exercise of the voice, this exercise is, in general, more advantageous than injurious. The professions which exercise the voice, only afford 75 cases of phthisis in 1000 deaths. With regard to the bent position, it is necessary to distinguish the trades which force this position whilst great muscular exercise



is employed: hatters, tanners, gardeners, wood-sawyers, and the trades which in bending the body leave it in almost complete repose: tailors, engravers, watch-makers, shoe makers. The latter afford a mean of 134 cases of phthisis in 1000 deaths; the former only 83. Hence, although they might induce us to consider the constraint occasioned in the functions of the lungs, as a frequent cause of phthisis, this circumstance appears to exert but a secondary influence, and is more than counterbalanced by constant muscular exercise.

Influence of the purity or impurity of the atmosphere. In the professions exercised in the open air, 75 cases of phthisis in 1000 deaths; in professions exercised in factories, 138. When the factories are large and open, phthisis is less frequent than in small and close factories. The healthfulness of the atmosphere which surrounds factories is often altered by foreign particles, the contact of which with the lungs have a remarkable influence upon the development of phthisis. Foreign particles may be dissolved in the atmosphere or simply suspended in the air. Aquous vapours. All professions which are exercised in the midst of these vapours, as tanners, bleachers, watermen, water-carriers, laundresses, are classed below the mean, 114. The uniformity of this result is as remarkable, as the theory would lead us to a contrary opinion. Observation shows, that cold and moist climates are those in which phthisis exercises its greatest ravages. And yet the occupations in which the workmen which are surrounded by watery emanations only give 53 phthisical cases in 1000 deaths. This conclusion, drawn from observations at Geneva, is opposed to that which M. Benoiston de Châteauneuf has drawn from observations at Paris. According to M. Lombard, the bleachers of Paris are exposed to many causes of phthisis independent of mere moisture of the atmosphere. A dry and warm air appears to be an active cause of phthisis pulmonalis. The proportion of phthisical cases in 1000 deaths, of iron mongers, jewellers, makers of files, founders, forgers, is about 127. The frequency of phthisis with other workmen, as watchmakers, toymen, mounters of watch cases, goldsmiths, depends, without doubt, upon the high temperature of the stoves which they use, a temperature which dries and purifies the air of their workshops. The influence of animal emanation, appears to be as advantageous as that of a moist atmosphere, among butchers, tanners, chandlers, nurses of the sick, butcher's wives. The proportion of phthisical cases in 1000 deaths is only 60. An atmosphere which is charged with the emanations of living plants may pass as a preservative from phthisis; gardeners are less subject to it than farmers; in 100 deaths of gardeners only 4 were owing to phthisis. This is not the fact with regard to emanations from dead or fermenting vegetable matter: attendants on wine cellars and bakers are very subject to phthisis. The number of phthisical cases among starch makers is less than the mean. Among varnishers the proportion of phthisical cases is considerable: in 65 deaths of varnishers of paintings at Geneva, 24 succumbed to phthisis. Picture painters, although exposed to emanations of turpentine and the drying oils, succumb less frequently than varnishers, because they are not obliged as these latter to saturate themselves, as it were, with noxious emanations, by closing so carefully their workshops in order to prevent the dust from attaching itself to the varnish. Emanations from the mineral acids do not appear to be deleterious. The nitric acid is used by hatters, gilders, assayers, goldsmiths. Of these four occupations but one is above the mean, 114, the rest count very few phthisical cases. Phthisis is also rare with those who are engaged in making chlorine. As to the metallic emanations, the statistics of Geneva are opposed to those of Paris, collected by M. Benoiston; and M. Lombard suspends his opinion until there is more ample information. There is the same uncertainty as regards the vapours from lead, arsenic, antimony, and copper; at the same time he is inclined to think that these vapours are less prejudicial than is commonly supposed. Those occupations which expose the workmen to an atmosphere charged with foreign particles, may be divided into two classes, according as the molecules are large or very much divided. In the first class the proportion of phthisical cases in 1000



deaths is about 137, in the second about 152. The mineral dusts cause 177 in 1000 deaths; vegetable, 105; animal, 144. Then, in fact, the most injurious of all foreign bodies which can exist in the atmosphere is the impalpable dust of very hard substances. Moreover, the mineral dusts are the most deleterious, particularly those of steel and silica. Dr. Knight, of Sheffield, has remarked, that there is not, at that place, a single polisher of steel forks who has attained his thirty-first year. This shortness of life is remarkable with the cutters of flints, freestone, and crystals. The filamentous dust of cotton, wool, feathers, &c. is more injurious than that of flour or starch. We will now recapitulate the professions in order as they exert an injurious or preservative influence. Mineral and vegetable emanations, 176 cases of phthisis in 1000 deaths; various dusts, 145; sedentary life, 140; a life passed in manufactories, 138; warm and dry air, 127; bent postures, 122; movements of the arms causing shocks to the chest, 116. Let us recollect, that the mean of phthisical cases, among all kinds of diseases, is 114 in 1000 deaths. Now let us enumerate those that have a preservative effect: an active life, with muscular exercise, 89 cases of phthisis in 1000 deaths; exercise of the voice, 75; a life passed in the open air, 73; animal emanations, 60; aqueous vapours, 53. M. Lombard devotes the latter part of his paper to the therapeutic applications, which there is no necessity of repeating here, they may be induced very naturally from the facts detailed. We will only note the kind of climate which he advises physicians to recommend to their phthisical patients. This climate ought to be moist, at the same time warm and serene. He also prefers Rome and Pisa to Nice, to Naples, and particularly to the dry and brisk climate of Marseilles and of Montpellier.—*Gaz. Méd. May 25th, 1834, from Annales d'Hygiène et de Méd. Lég. Jan. 1834.*

35. *Case in which Urgent Symptoms of Asthma appeared to be Induced by Electricity, excited by New Feathers.* By JOHN ROSS.—James Crichton, a stout athletic ploughman, aged thirty, residing at Broompark, Auchtergaven, Perthshire, having been recently married, took up house on the 1st April last year, when, upon retiring to rest for the first time in his new home, he was seized with a difficulty of breathing, which, for the space of three weeks, gradually assumed a more alarming aspect, and finally compelled him to remain whole nights by the fire, the sense of suffocation while in bed being so intense. In this situation the invalid had recourse to blistering, which had the beneficial effect of lessening its virulence for the time; but the anticipated result not being realized by this treatment, the idea suggested itself, that as the dwelling in which he resided had been recently repaired and plastered, it was probable that his complaint derived its origin from this source. By advice, therefore, he removed to his father's house adjoining, where he remained till the 20th May. This arrangement, however, likewise proved unsuccessful; the nocturnal paroxysms were as frequent as ever, and his constitution was gradually yielding to the ardour of his complaint.

As he had frequently previous to this consulted several medical practitioners, and by their instructions he used several antispasmodic purgatives without any apparent relief, he now resolved to leave home, in hopes of deriving benefit from a change of air. He returned upon the 25th May, having been absent five nights, during which period he slept soundly and unmolested by his former visitor. Conceiving that he might now enjoy the pleasures of his own bed, he again returned; but his tormentor was still an occupant of the dwelling. He tried two nights in the barn, but here likewise did his nocturnal foe pursue him. In this situation he again had recourse to his father's roof, under which he enjoyed the best of health for the space of three weeks, but at the expiration of which his complaint returned with increasing severity, and continued nearly a month.

In this situation he again had recourse to a change of air, and during the week that he was absent was free from his ailment. He returned again to his



father's house, where he continued some days unmolested. From this he removed to his own house, where, from the virulent attacks of his former complaint, his health was so much impaired that serious apprehensions were entertained of his recovery. At this time he left home again for a few days, and was tolerably well. A return to his own house, however, precipitated him once more into his former trouble. After a week's fruitless efforts to enjoy repose during the night, he removed to a friend's house, where, for the space of a fortnight, he slept tranquilly, never experiencing any return of the paroxysms. His father's house for a considerable time subsequent to this period proved equally successful, but he was still convinced that the old neighbour continued to reside in his own house, by the frequent unsuccessful attempts at repose that he there experienced.

When he waited upon me about six weeks ago, I called to recollection a statement that I had somewhere read relative to the effects of electricity in feathers, illustrated by a case in some particulars similar to the present. I asked my patient if it was a feather bed that he slept upon, but was answered that it was chaff. In the course of conversation, however, I discovered that the bolsters were feathers, and I requested him to discontinue their use, and substitute chaff in their place, and let me know the result; when, upon calling next day, I found what I had anticipated, that he had passed a sound night. I then requested him to continue the chaff for a few days longer; he did so, and remained perfectly free of his complaint. I then requested him to try one night again upon his feather bolsters, but not for some time could he be prevailed upon to make the experiment; and when he did muster resolution enough to make the trial, his old complaint returned with its usual violence. In this situation he threw the bolsters from him violently, and was an hour or two tormented before the paroxysms ceased.

I have ascertained beyond the possibility of doubt, that, at the time he had been afflicted in his father's, &c. his own feather bolsters had been removed hither. In short, no night did he sleep upon these bolsters but he experienced the nocturnal paroxysms. Though sometimes he was affected immediately on going to bed, yet frequently two or three hours elapsed ere he was attacked.

It may be worthy of remark, that he had regularly slept upon feather bolsters during the former part of his life without feeling any such sensations; but that these were old, whilst the present were new. His wife and other individuals had slept upon them during the most part of this period without experiencing the least inconvenience.—*Edin. Med. and Surg. Journ. July, 1834.*

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## PRACTICE OF MEDICINE.

36. *On the vis Medicatrix Naturæ.* By Professor TOMMASINI.—Some of the older physicians confided entirely to the vis medicatrix naturæ in treatment of acute diseases; hence, after giving some aid to the patient at the commencement of the disease, (so as to direct nature in the proper course,) they remained tranquil spectators of the diseased actions and changes which succeeded each other with more or less rapidity, believing too that they imitated the means which nature employed in order to surmount the disease, and to resist the action of injurious agents. Others, on the contrary, constantly view these abnormal actions as injurious, believe that they ought always to oppose them, and endeavour to arrest, by every means in their power, these changes and morbid derangements which they believe to result solely from the pathological condition, still existing in all its force. Hence have arisen two sects in medicine; that of the *expectant* and prudent, and the one which trusts alone to active and powerful medicines.

The enlightened and prudent practitioner, says M. Tommasini, will not enlist himself exclusively under either of these parties. Equal dangers may result



from a too active and perturbing treatment and from this excessive prudence, which applies no rein to the disease. It is consequently of the greatest importance to accurately define the cases in which it is necessary to act, and which may be trusted to nature; the direction of the physiological operations, which ought to constitute what the ancients called the force of resistance against injurious causes, or the *vis medicatrix naturæ*.

1st. Nature, or rather the organism, the organic system, or any viscus whatever, cannot act in a salutary manner, if it be not healthy; it cannot act usefully for itself, for the organs with which it is in relation, and for the individual, if it be not in a healthy condition, and performing its functions normally. Before a disease breaks out, or after it has run its course, then the system, the tissue, the affected part, return to the performance of their physiological actions, and tend to reject the external morbid causes, or to expel their products. These products, or the remains of the disease, are the perspirable matter, the *faeces*, thick urine, or other analogous matters. Extraordinary metastases cannot be adduced as arguments in favour of the action of the *vis medicatrix naturæ* when we consider that if injurious or perturbing agents are sometimes transported with advantage to the organism, to some external part and one of minor importance, in other cases, these natural metastases take place to the lungs or brain, and many produce death.

2d. The action of the organism is evidently salutary in certain diseases; then it is proper not to disturb it, and to avoid arresting its eminently salutary actions. The principal cases in which its utility is evident are—vomiting, when the stomach is surcharged with food; the sweat which occurs on the decline of fever, and after which the patient experiences relief; copious stools and thick urine, with sediment, when these evacuations commence at the period at which the morbid excitement has diminished.

3d. It is necessary strictly to attend to the precept of never doing more than is absolutely required. A fever, evidently ephemeral, during which the head is not violently affected, which is not marked by severe exacerbations, which is not the effect of any great alteration, and does not threaten to produce any, ought to be left to itself; it will get well in a short time. To treat a patient, in such a case, by active measures, is inappropriate and dangerous. But, when this fever is accompanied with severe head-ache; when, to a continued although slight fever, there are joined phenomena indicating the probability of the development of a phlegmasia, then there being no grounds for hope that the disease will speedily cease of itself, the physician ought to attack it with the means which our art furnishes him for such an occasion, because nature, or to speak more correctly, the affected part, will not throw off the disease itself, not being able to remove the inflammation, without producing at once, or threatening the other organs with metastases, which may endanger life. Nevertheless, it is not the less an axiom in medicine *never to do more than is necessary*; only we ought not to remain inactive, and wait from nature for assistance which she cannot give when she is herself sick.—*Rev. Méd. July, 1834, from Observatore Medico di Nipoli, May, 1834.*

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37. *Use of Chloruret of Lime in Blenorragia.*—Professor GRAEFE, of Berlin, was among the first to employ this remedy in inflammatory discharges from the urethra; and so favourably did he augur of its good effects, as to state that it would cure the disease when copaiba and cubebs had failed. It was used both internally, either in the form of mixture or of pills, and externally as an injection: the formula for the pills is as follows:—Take of the chloruret one drachm, of extract of opium nine grains, and as much gum as may be necessary to form a consistent mass, which is then to be divided into fifty-four pills. At first, one may be taken every two or three hours; and the dose is to be gradually increased till eight, ten, or twelve are taken every hour. The injection is made by dissolving twenty-four grains of the chloruret in six ounces of water, and adding half a drachm of the *vinum opii*. The strength must be regulated according to



the irritability of the canal. This treatment has been successfully adopted in acute as well as in chronic cases; but it is in the latter set chiefly that the greatest benefit has been obtained. As a matter of course, if the irritation produced exceed certain limits, we must omit the use of the chlorurets, and resort to a more soothing treatment. In one patient, who had had a gleet for two years, the discharge was stopped in the course of ten days.—*Trav. de la Soc. Med. de Bourdeaux.*

38. *Hypertrophy of the Mammæ.*—Galen is the earliest author who has noticed this malady, and most of the comprehensive records of disease published since his time present some cases of it. Boulli mentions the case of a woman whom he saw at Koenisberg, and in whom the mammæ had become so prodigiously enlarged that she was obliged to support them with bandages, passed round her body and across her shoulders; each of them must have weighed thirty pounds at least. This poor woman had been advised to have the mammæ extirpated, and this murderous operation would have been performed, had Boulli not happened to visit her; he at once discovered that the hypertrophy of the gland was connected, or at least associated, with amenorrhœa, and ordered emmenagogue medicines, derivatives, leeches to the ankles, cupping-glasses to the hips, &c. The result was quite satisfactory; the menstrual flux was restored, and the volume of the mammæ speedily decreased.

Indeed it is a very common occurrence, that when the catamenia have been suddenly checked, the mammæ became swollen and painful. Dorsten relates the case of a young lady, in whom an extraordinary enlargement of the mammæ took place in the course of one night; it was very evidently connected with the retention of the milk, the lady being a nurse at the time; the left breast measured thirty-seven inches round its base, and eighteen inches from the base to the nipple—the right one thirty-one inches round, and seventeen in height. Dorsten employed emollient fomentations and revulsive remedies; but, unfortunately, his patient was so feeble that she could not continue the course prescribed. The catamenia were suppressed for six months, all the means which had been used to restore them having proved quite ineffectual. The lady died; and when the breasts were weighed after death, the left one was found to weigh sixty-four pounds. No decided structural change could be detected in the gland, except the mere hypertrophy of the cellular tissue which enters into its composition.

Hey, in his Practical Observations on Surgery, alludes to several such cases, in all of which the enlargement of the mammæ was associated with amenorrhœa: one of these is so remarkable that it deserves notice. A young girl, æt. 13, on the first occurrence of the menstrual flow, had imprudently put on a damp chemise, with the hope of stopping it; the discharge was then suddenly arrested, and could not be recalled: the mammæ forthwith began to swell, and gradually attained such a size, that she could not keep herself erect, but was obliged to bend her head and body to diminish the extreme tension, and to draw her limbs up to her stomach, for the purpose of supporting the huge pendulous glands. The left mamma, being the most cumbersome, was extirpated—it weighed fifteen pounds. The girl was cured, but ever afterwards had a slight curvature forwards of the spinal column.

The hypertrophy of the mammæ sometimes takes place during pregnancy, and disappears with the cessation of the milk fever after delivery. When the nipples are too small, so that the child cannot easily take hold of them, the tendency to the engorgement of the glands is necessarily greater. Professor Cerutti alludes to the case of one of his patients, who was in this condition. The left mamma attained the dimensions of thirty-eight inches in circumference, and fifteen in height.

This woman was safely delivered, and when the milk fever set in, the breasts did not seem to become any longer; as it subsided, they very rapidly decreased in volume, and in the course of a month or so, they measured round



their bases only eighteen inches.—*Med. Chirurg. Rev. from Meckel's Archives für die Physiologie.*

39. *Hemicrania cured by Acetate of Morphine applied endermically.*—Dr. MAGISTER, in a memoir in the *Gazette Médicale de Paris*, for October 4th last, endeavours to show that hemicrania is a neuralgia generally seated in the ramifications of the nerves distributed to the temporal and orbital regions, though it may sometimes be caused by nervous sympathy, the primary irritation being in an organ or nerve remote from these regions. The best treatment for this disease, even when symptomatic, is, he says, the application of acetate of morphium to the dermia denuded of cuticle by the ammoniacal ointment. Several cases illustrative of the efficacy of this treatment are given.

40. *Observations upon the Therapeutic Effects of Creosote.* By Dr. REICH, of Berlin.—During the winter of 1831-2, Dr. R. was exposed for many hours, in an open carriage, to the rain and snow. His right hip was, during all this time, soaked with the water of the melted snow, in consequence of which he was attacked with a fixed and permanent pain of the joint, which resisted all the ordinary means; at the same time that the articulation was painful, the thigh was insensible, and, as it were, paralysed. Imagining that the *tinctoria fuliginis* of Seelig, which had produced such good effects in gout and rheumatism, probably owed all its properties to the creosote, he determined to employ this latter substance itself. He commenced with five drops in six ounces of emulsion, by spoonfuls, every two hours. The disagreeable taste of the medicine excited some nausea; nevertheless, the night having been passed in tranquillity, M. Reich took the next day ten drops; the following day twenty drops, in four doses. The feeling of stupor and paralysis in the thigh was entirely dissipated. The shooting pains in the articulation disappeared the next morning, but returned before evening, as also the feeling of stupor. The medicine was again employed during the three following days, in the dose of twenty drops per diem. The pain and the stupor were entirely dissipated, and did not return.

A lady, aged forty years, had experienced, in the month of July, two attacks of acute rheumatism, accompanied with swelling of the joints of the hands and feet; on the 24th of August she was taken in the limbs with a feeling of stiffness and engorgement, which is the ordinary forerunner of the most acute pains. The creosote was prescribed, but this time in the form of pills, in order to disguise the disagreeable taste which it has in the liquid state. The following is the formula:—R. Creosote,  $\mathfrak{z}\text{i}$ .; Powdered Althæa, q. s. f. in pil. c. x. On the 26th, the patient only complained of a sensation of stiffness in the articulation of the knee. The 28th, she could go down into the garden, and on the 6th of September, she was free from all rheumatic pain, from every feeling of stiffness in the joints; she had, besides, regained the freshness and the appearance of good health, which, it is well known, never exists under the influence of the rheumatic diathesis.

A man, aged fifty-three years, addicted to the use of alcoholic drinks, was affected with gout at the commencement of 1832; it was relieved at first by the use of the mineral waters of Wis-Baden. He had a new attack at the commencement of 1833. A physician was consulted, but did not relieve him. The employment of the juice of herbs, and of a potion, with muriatic acid and ether, produced a momentary relief. But about the 21st of September he had a relapse. The invalid could not walk without the assistance of crutches; the joints of the foot and knee were swelled; every night sweats exhausted the strength of the patient; his lips and tongue were very red; his gums were softened. They resorted to the employment of the pills of creosote, five of which were taken in the morning and the same number at night; they were continued to the 22d of November, and with such success that the patient could take daily long walks.



The author also cites two cases of phthisis pulmonalis, with purulent expectoration, in which pills of creosote produced a cure. But, as he does not give the stethoscopic signs, this should be doubted. Too many cases of pulmonary catarrh have been cited as cases of phthisis pulmonalis cured for one not to feel incredulous.

M. Reich has also employed the creosote externally with constant success.

The first experiment was made upon a female subject three days after death. Putrefaction was already far advanced, and the odour was insupportable. The body was sprinkled with the distilled water of creosote, which stopped the progress of putrefaction and destroyed the bad odour.

A young man had been affected with the most severe confluent variola; his body was covered with scabs, raised by a collection of thick and fætid pus; the employment of a solution of one drop of creosote to the ounce of water, destroyed the odour, and caused the ulcerations of the skin to cicatrize. An effect equally advantageous was obtained in a child of seven years of age, whose mouth was filled with apthæ and erosions, accompanied with swelling of the maxillary glands and bleeding of the gums.

A young man, aged twenty-six years, had a scrofulous ulcer on the external part of the leg for six years, during which time it had several times been healed, but again reappeared soon after. For eight months it had been open, and surrounded with varices and indurations; the creosote did not produce complete cicatrization, because the patient did not wish to continue its employment, but it procured a remarkable abatement in the pains, of which this ulcer was the seat. In a pregnant woman, affected with gonorrhœa and venereal ulcers, and who previously had frequently had leucorrhœa, injections of creosote, suspended in water, completed the cure in fifteen days.

This medicine has not shown itself less efficacious in odontalgia, obstinate itch, and many diseases of the skin of a syphilitic origin.—*Rev. Méd. May, 1834, from Hufeland's Journal, Jan. 1834.*

41. *Treatment of Worms.* By WILLIAM STOKES, M. D.—The treatment of worms is, generally speaking, extremely simple, the principles of treatment in the various kinds of intestinal worms being nearly the same. Simple as they are, however, some persons entertain false notions respecting them. They appear to think that all they have to do is to evacuate the worms; and, having accomplished this, they rest satisfied, and take no steps to prevent their recurrence. But the mere evacuation of worms is no proof of a cure; to effect this you must prevent their return. From what you have learned with respect to their exciting causes, you will be able to give such directions as to the patient's mode of living as will obviate their recurrence; and, with regard to the means to be adopted for removing them, we may divide them into the following:—We have, in the first place, what is called the mechanical treatment, next the specific, and, lastly, the purgative treatment. The first and last are nearly connected. For instance, purgatives appear to act in the same way as mechanical anthelmintics, by irritating the mucous surface of the intestine and the worm, and thus causing its dislodgement and expulsion.

Among the principal mechanical anthelmintics are filings of tin, cowhage, powdered charcoal, and crude mercury. Among the specific are a variety of substances, most of which have a strong and peculiar smell. This is a very curious fact. Valerian, assafœtida, camphor, ether, and other odorous substances have been found to be anthelmintic, and the *Geoffræa inermis*, which has been employed for this purpose, is remarkable for its strong unpleasant odour. The same thing may be said of tobacco, the oil of chenopodium or wormseed, garlic, artemisia absinthium, and many others. With respect to purgatives, there is not one in the whole list, particularly those of the drastic kind, which may not be looked upon as an anthelmintic.

It is the opinion of the most eminent men, that the thread worm is the most difficult to expel, because they are generated with an extraordinary rapidity,



and accumulate in a very short space of time. You are satisfied of their existence, have seen them in the alvine discharges, and the patient has all the ordinary symptoms. Well, what is the best way of getting rid of them? You shall commence by the exhibition of a mercurial. It is difficult to explain why it is that mercury has such an effect in removing these worms, but the experience of the best practitioners can be adduced in proof of its efficacy. The statements of Dr. Latham of London, and of many practitioners in this country and on the continent, go to prove this. In whatever way it acts, mercury appears to be a powerful anthelmintic; and it is a fact that these worms have been expelled where it was given in very small doses, and not sufficient to operate as a purgative. The best plan is, first to give a mercurial purgative, and then to have recourse to the mechanical treatment, giving with this view, the syrup of cowhage, one of the most efficacious of this class. It is a remedy which is easily managed, and will do no harm; for, though it produces violent itching when applied to the cutaneous surface, it produces very little sensible effect on the intestinal mucous membrane. The form which I employ is the following:—Take of the hairs of the *dolichos pruriens* one scruple, syrup of orange-peel an ounce; of this an electuary or syrup is to be made, of which you may give a child a tea-spoonful three times a day. This is the remedy on which the West Indian practitioners, who have frequently to treat this affection in the negroes, place the greatest reliance; and you will find that if you employ it, a vast number of worms will be often passed. It should be continued for two or three days, and then a purgative must be given, after the operation of which it may be again resumed, if necessary. An excellent adjuvant to this is the use of aloetic injections, composed of two parts of milk, and one of the decoction of aloes. In this way you will be able to remove a vast quantity of these little animals from the rectum. It has also been observed, that injections of cold fresh or salt water have a great power in promoting their expulsion. Bremser mentions that in cases where these worms pass from the rectum into the vagina in females, and excite irritation, there is nothing so effectual in destroying them as injections of cold water and vinegar. This you should bear in mind. You should also remember, in the case of administration of syrup of cowhage, to give strict orders not to let any of it drop on the child's skin, as it would excite a great deal of irritation. You should forewarn the attendants of its effects on the skin; and if any of it should be spilled on the hands, neck, or face, the best thing is to wipe and wash the part well, and then rub it with a little almond-oil.

For the expulsion of *lumbrici* there is nothing so successful as the ordinary purgative treatment. A bolus, composed of calomel, rhubarb, and jalap, will answer this purpose extremely well; you may also use the syrup of cowhage with much advantage. Bremser gives a formula for an electuary, which I have not tried, but have no doubt of its value, for it appears to combine all the qualities of a good vermifuge electuary. It is made as follows:—Take of the seeds of *santonium*, and of the flowers and leaves of tansy, reduced to powder, each half an ounce. Here you have two anthelmintics of the specific kind. Add to these two drachms of powdered valerian: here is another. You then combine with these, two drachms of sulphate of potass, and a drachm and a half of jalap: these are purgatives. You then make them up into an electuary with syrup of squill, which is also an anthelmintic of the specific kind. Of this electuary two or three tea-spoonfuls are to be taken during the course of a day. Bremser states, that this combination is of great value, particularly against *lumbrici* and tape-worm.

The treatment of tape-worm is not difficult. All the specific and mechanical anthelmintics are useful in promoting its expulsion, but there is nothing which appears to have such a powerful effect as full doses of turpentine and castor oil. This constitutes the best remedy we possess against the *tænia*; but if you wish to get rid of it entirely, you must give the turpentine in full doses. You will frequently be astonished at the vast quantities of this worm which will be passed. When you give turpentine, it is safer to order a full dose of it, for



if it be given in small quantities it is very apt to irritate the urinary organs.—Half an ounce of turpentine, with the same quantity of castor oil, form an efficacious, though very disagreeable draught. You may, however, obviate its nauseousness by the addition of a small quantity of camphorated tincture of opium and mucilage of gum Arabic. The celebrated empyreumatic oil of Chabert is, in my mind, nothing more than a modification of the turpentine. This is the remedy which Bremser looks upon as most efficacious against the tapeworm. You have all, I presume, heard of the animal oil of Dippel—the oil which is produced by the distillation of bones or hartshorn shavings. To one part of this are added three parts of turpentine: these are left to combine for four days, and then distilled; the first three parts of oil which come over are called the empyreumatic oil of Chabert. It is an exceedingly nauseous remedy, has a most disgusting smell, and is seldom used in this country. Bremser recommends it to be taken in doses of a tea-spoonful three times a day. Some persons who have tried it have assured me that it is extremely difficult to be taken, and that it excites a train of most disagreeable abdominal sensations. Bremser, however, thinks highly of it; he is in the habit of directing his patients to take it for three or four successive days, then to omit for a day or two, and then to return to it again, and he says that it not only succeeds in evacuating the worm, but also in preventing its return. In addition to this, he recommends the use of a fortifying tincture, which I think very useful in worm cases. It is a combination of one of the salts of iron, with a preparation of aloes. If you take equal parts of the muriated tincture of iron and tincture of aloes you will have a remedy somewhat similar to the strengthening tincture of Bremser. Twenty drops of this mixture, taken three or four times a day, will prevent the recurrence of worms.—*London Med. and Surg. Journ. May 3d, 1834.*

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## SURGERY.

42. *Pathological Appearances of Seven Cases of Injury of the Shoulder-Joints, with Remarks.*—The *Medical Gazette* for May 24th last, contains the following interesting contribution, from JOHN G. SMITH, Esq., to our knowledge of the pathology of the shoulder-joint. Mr. S. is unable to give any previous history of the different cases; the whole of them occurred in bodies brought to his theatre for dissection.

“CASE I. In the body of a man brought to the dissecting-room, under the old system of violation of the grave, in the month of February, 1832, the following pathological condition of the left shoulder-joint was observed:—

“On making a transverse section in the centre of the deltoid muscle, for the purpose of reflecting it, the bursa situated beneath was observed to be much larger than usual, very much thickened, and communicating with the general cavity of the shoulder-joint by a large irregular opening. On further examination, it was noticed that the tendinous insertion of the subscapularis muscle had been entirely torn away from the lesser tubercle; the supra-spinatus, infra-spinatus, and the teres minor muscles, had likewise been completely detached from the greater tubercle. The tendon of the long head of the biceps had been torn away from the upper part of the glenoid cavity, and entirely withdrawn from the joint: it was found to be firmly attached to the anterior margin of the bicipital groove. The head of the humerus moved freely in all directions on the glenoid surface of the scapula, and the size of the cavity of the joint was much increased, from the extensive laceration of the capsular ligament; it included the whole of the neck of the bone and both tubercles. The appearance of thickening of the capsule below would seem to indicate that it had likewise suffered laceration in this situation at the time of the injury. A small portion of the outer margin of the glenoid cavity had been fractured off, and, with the



under surface of the acromion process, and the tubercles of the humerus, were partially covered with portions of enamel-like or porcelain secretion; and numerous bands of organized fibro-ligamentous substance extended across the cavity of the joint in different directions. There was a fracture of the humeral extremity of the clavicle, which extended into its articulation with the acromion.

“CASE II. Mary B\*\*\*\*, æt. 30, died of consumption in St. George’s Work-house, and was removed to the theatre for dissection, in November, 1832, under the new regulations provided by the Anatomical Bill.

“The left shoulder-joint presented the following appearances:—The bursa beneath the deltoid muscle communicated, by a large irregular opening, with the general cavity of the joint: the tendon of the subcapularis muscle was partially torn from the lesser tubercle of the humerus, but the insertions of the supra and infra-spinatus muscles and the teres minor, remained perfect. The round tendon of the long head of the biceps muscle was ruptured, leaving a portion, about half an inch in length, attached to the upper part of the glenoid surface: the lower portion of the tendon had been drawn from the cavity of the joint, and lay firmly attached to the margin of the bicipital groove. The ruptured extremities of the tendon were perfectly smooth and rounded, and the superior portion had become much flattened: small bands of fibro-ligamentous structure were observed, but none of that peculiar enamel-like secretion noticed particularly in the preceding case.

“CASE III. Ann D\*\*\*\*, æt. 38, died January 1st, 1833: removed from St. George’s Work-house, for the purpose of dissection, under the new regulations.

“The following account of the appearances of the right shoulder-joint is extracted from the notes entered at the time, in the dissecting-room journal,\* by Mr. G. Knox who dissected the extremity. On removing the deltoid muscle, the head of the humerus came into view, presenting a larger surface of bone than usual: on further examination, it was found that the tendon of the subscapularis muscle had been partially torn away from the lesser tubercle, and the original insertions of the supra-spinatus, infra-spinatus, and teres minor muscles, had been completely separated from the greater tubercle. The tendon of the long head of the biceps had also been torn from its origin, and had become attached to the upper part of the bicipital groove.

“The under surface of the acromion process was found hardened by the friction of the head of the humerus, and covered by a peculiar enamel-like secretion. The capsular ligament appeared unusually thick at the lower part, which gave rise to the idea it had been lacerated at the time of the injury, and had become reunited by the effusion of coagulable lymph.

“CASES IV and V. Catharine S\*\*\*\*, æt. 56, died February, 1833; was removed from St. George’s Work-house, under the new regulations, with a medical certificate signed “sudden death.” She was a short, stout, muscular subject, and, upon inquiry, proved to have been a hard-working woman at the wash-tub up to the time of her death. The shoulder-joints presented the following appearances:—

*In the right shoulder.*—The bursa beneath the deltoid muscle communicated with the general cavity of the joint, by a jagged irregular opening about the size of a half-crown. The tendon of the subscapularis muscle was torn from the lesser tubercle, and the tendon of the supra-spinatus muscle detached from the greater tubercle; both having become united with the common capsule. The tendon of the long head of the biceps had been torn from the upper part of the glenoid cavity, withdrawn from the joint, and found to be firmly attached by ligamentous structure to the margin of the bicipital groove. There were a

\* We have been in the habit for some time past of keeping a dissecting-room journal, in which every thing is entered that occurs out of the regular course, or differs from the natural appearance; the consequence has been, that we have already collected a few interesting examples of varieties in the distribution of arteries and nerves, the absence of certain muscles, &c. If this plan were generally adopted in the dissecting-rooms in London, in the course of every session, a very curious and valuable collection might be made; the most interesting examples of which might be selected, and annually published in one of the medical periodicals.



number of small exostoses on the tubercles, covered with the enamel-like secretion, which corresponds to a similar appearance on the under surface of the acromion process.

There was an oblique fracture of the acromion process of the scapula, which had separated about an inch of its expanded extremity; it had not united by bone, but had formed an artificial joint through the medium of cartilage, and was further strengthened by a fibro-ligamentous capsule.

The appearance of the biceps muscle was very remarkable, and first directed the attention to the condition of the joint; the portion of the belly of the muscle appertaining to the long head, was remarkably short, and the short head, unusually developed, appeared in great measure to supply the place of the other.

*In the left shoulder.*—On dividing the deltoid muscle, the bursa at its under surface was found very much thickened and enlarged, and an opening observed which communicated with the articulation. On further examination, this opening was found to be caused by a partial separation and detachment of the supraspinatus and subscapularis muscles, from the larger and lesser tubercles; the surfaces from whence they had been torn being within the capsular ligament. The inner surface of the capsule presented a very rough fibrous appearance, occasioned by the portions of the lacerated tendons; the synovial membrane presenting small villous productions, the result, apparently, of organized lymph.

The tendon of the biceps was wanting in the joint, having been torn through and divided into a number of fibres, which were attached to the upper part of the bicipital groove; small bony exostoses had been thrown out on the tubercles, and the cartilaginous surfaces of the humerus and scapula were here and there covered by small patches of the enamel-like secretion.

The acromion process of the scapula had been fractured precisely in the same situation as that of the opposite side, and formed a similar artificial joint.

CASES VI. and VII. Thomas K\*\*\*, æt. 40, died April, 1834; removed from the Islington Infirmary, with a medical certificate signed "Consumption."

*In the right shoulder.*—The bursa beneath the deltoid muscle communicated by an irregular opening with the general cavity of the joint. The tendon of the subscapularis muscle was entirely detached from the lesser tubercle, and the fibres of the muscle itself were drawn downwards from the venter of the bone, presenting a small cavity beneath, lined by an irregular fibro-ligamentous structure, and communicating with the articulation. The tendon of the supraspinatus muscle was torn from the greater tubercle, the infra-spinatus and teres minor muscles remained attached; but the muscles appear, at some former time, to have suffered severe tension.

The tendon of the long head of the biceps muscle was not separated from its origin, but displaced from the groove, and lay loose in the inner part of the cavity of the joint; it is expanded, and bears evidence of having been subjected to pressure and friction; one surface, which corresponds to the head of the bone, is smooth and polished, the other presents a bundle of silvery cords, which may be spread out upon the finger three quarters of an inch in width; the bicipital groove is nearly filled with a fibro-ligamentous substance, similar in structure to numerous small bands, which extend across the joint in different directions, from one point of the synovial membrane to another.

The capsular ligament had been much stretched, and will readily allow the head of the humerus to be displaced under the coracoid process of the scapula, resting upon the inner margin of the glenoid cavity. There is no distinct evidence of the capsule having been ruptured in any other situation than that already mentioned, communicating above with the bursa beneath the deltoid muscle. There were small bony deposits about the tubercles of the humerus, which were within the general capsule, and here and there small patches of that peculiar porcelain secretion.

*In the left shoulder,* the bursa beneath the deltoid muscle was found very large, and its parietes thickened, but it did not communicate with the general cavity of the joint, being separated by a thick layer of lymph. The capsular li-



gament was perfect, but very capacious, and apparently thicker than natural. The head of the humerus moves very freely in its socket, and may be easily drawn beneath the inferior margin of the glenoid cavity. The tendon of the subscapularis muscle is torn from the lesser tubercle, and the fibres are drawn from a considerable part of the venter of the bone. The tendons of the supraspinatus, infra-spinatus, and the teres minor muscles, remain attached to the greater tubercle, but their fibres have evidently been, at some former time, very much stretched.

The tendon of the long head of the biceps, as in the preceding case, was permanently displaced from the bicipital groove, and lay at the inner and lower part of the joint, playing over a smooth part of the lesser tubercle; one surface is perfectly smooth and glistening, the other is a flattened band of silvery fibres. There are a number of fibro-ligamentous bands of organized lymph stretching across from one point of the capsule to another. The bicipital groove is nearly obliterated by the same structure, and portions of ossific matter have been deposited.

*Remarks.*—There are several points of extreme interest in the foregoing cases, connected with the pathological condition of the shoulder-joint consequent upon severe injuries, which present themselves for consideration; and I conceive might be attended with a very useful lesson, if we are careful to avoid all hasty opinions, and only select such practical inferences which may be essential in accounting for many circumstances attending accidents of the shoulder-joint.

It may assist us in forming a right judgment of the case, point out the most rational method of treatment, and enable us to prevent many bad consequences which frequently follow injuries of this important articulation.

The first point which suggests itself is, that a severe blow, strain, or dislocation, is more frequently accompanied with severe local injury of the muscles and tendons, in the immediate neighbourhood of a joint, than we should be otherwise inclined to suppose.

I have formed this opinion from the circumstance, that the seven cases of severe injuries of the shoulder, described above, occurred in the comparative small number of dissections, not exceeding forty individuals; and I think I may therefore safely infer, that these effects consequent upon severe accidents more frequently happen than are suspected, and from inadvertency or other causes are entirely overlooked in the ordinary dissection of bodies.

It is a curious fact, that in two instances both joints of the same individual should have presented nearly similar appearances, and that the same cause should probably have produced exactly similar results.

The frequency, in these cases, of the rupture, or tearing away from its origin, of the tendon of the long head of the biceps muscle, and its subsequent withdrawal from the joint into the bicipital groove, and its complete and permanent displacement in two instances, are facts in themselves of great practical importance.

The separation of the tendon of the subscapularis muscle from the lesser tubercle, (excepting in one case,) where it was only partially torn away, may be looked upon as the common result of the accident which produced these appearances; not so, however, with the tendons of the supra and infra-spinatus, and the teres minor muscles, from the greater tubercle, which appear to be more uncertain. In two instances all three tendons were torn away; in three cases only the tendon of the supra-spinatus; and in the remaining two cases, the whole of the tendons preserved their natural attachments.

The capsular ligament appears in all cases to have been extensively lacerated at the upper part, and to have communicated with the bursa beneath the deltoid muscle, with only one exception, which hardly deserves to be excluded, from the very evident thickening, which implies that a communication had existed, but that union had afterwards taken place. In only two instances could any thing like a laceration be detected in the lower part of the capsule; and even in



these it could only be suspected from the thickness of the capsule in this part. In all the cases the capacity of the general capsule was much increased, and included within it more of the upper part of the humerus than natural. In two cases it distinctly allowed the head of the bone to be displaced from the glenoid surface of the scapula without the least difficulty.

The fibro-ligamentous bands must be considered as the result of the organization of fibrine thrown out during the inflammatory stage consequent upon the first effects of the injury. The enamel-like or porcelain secretion may probably be traced to a similar cause, or looked upon as one of the resources of nature, to prevent parts subjected to unusual friction from being materially injured by such a process. In all the cases, (excepting case II.) the joints presented more or less of the fibro-ligamentous bands, and the enamel-like secretion immediately decides the question, which might otherwise have arisen as to the probable date of the injuries.

It is likely that the first case was an example of the effects that may be expected to follow the dislocation into the axilla, with the addition of a rupture from its origin of the round tendon of the biceps muscle, which, according to the opinion of Sir Astley Cooper, is by no means to be considered a common circumstance, or generally attendant on this accident. It would seem to have been produced by a severe blow on the top of the shoulder, from the appearance of injury and fracture of the humeral extremity of the clavicle.

The second case is probably one showing the effects of partial dislocation, in which the head of the humerus is drawn forwards against the coracoid process of the scapula, but quickly slips back again into its natural socket. It is an example of a rupture of the round tendon of the biceps muscle, instead of the tendon being torn away from its origin.

The third case, I am inclined to think, has been a dislocation into the axilla or on the dorsum of the scapula: it exhibited the most serious injuries; the whole of the tendons of the muscles were torn away from their attachments.

The fourth and fifth cases occurred in the same individual. I am at a loss to say in what manner the bone had been forced to produce the appearances observed, but I am inclined to think it probable that they are both examples of the dislocation upwards. I find that Sir Astley Cooper says, in his valuable work on Dislocations, "It has been supposed that a dislocation of the os humeri upwards might occur, but it is obvious it could only happen under fracture of the acromion: it is an accident I have never seen." In strength of the opinion I venture to offer in these examples, I find that the humerus may be readily displaced upwards when the acromion is fractured; so that the head of the bone rests on the superior margin of the glenoid surface, but immediately returns to its natural situation.

It has been suggested, that the accident might have happened from the individual falling down stairs while the arms were half extended, or by any violence that would tend to throw the head of the bone forcibly upwards. It is a remarkable fact, that the appearances in one shoulder-joint should be nearly a counterpart of the appearances in the other; they would seem to have been produced at the same time, and both to have been followed by severe inflammatory symptoms, as evinced by the fibro-ligamentous bands and the secretion of enamel on the processes of bone. The motion between the fractured ends of the acromion was considerable, and each surface is invested with a layer of cartilage.

The sixth and seventh cases likewise occurred in the same subject. The appearances in the right shoulder, I think, clearly indicate that it is an example of the effects of a dislocation under the pectoral muscle. The appearances of the left shoulder result, perhaps, from a dislocation under the pectoral muscle, or into the axilla. The curious coincidence, that both the long tendons of the biceps muscle should have remained displaced, and that both should present the same remarkable character, are facts worthy of being remembered; and the question occurred to me, whether the pain and inconvenience a patient feels



in some cases for a considerable time after the reduction of a dislocated arm, may not be owing to the long tendon of the biceps muscle having been displaced from its groove, which would not only give pain by stretching that muscle, but very considerably affect the action of the forearm? In this case I should think it right to give the arm a gentle rotatory motion after reduction, that the parts might thereby be properly replaced and adjusted to their wonted situations.

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43. *Prolapsus of the Rectum cured by the Application of the Actual Cautery.*—A. M. aged fifty, was admitted into the hospital at Gand, in consequence of an old and troublesome prolapsus. It was as large as a large apple, and its mucous surface was swollen, irregular, hard, and almost callous.

Three cauteries, heated to whiteness, were successively applied to the mass, and Professor KLUYSKENS, not satisfied with this, introduced one of them into the anal orifice, so as fairly to touch every portion of the protruded gut, and reduce it to an eschar; simple dressing was then applied, and kept in its place by a T-bandage. The pain produced by the cauteries was only temporary: the bowels were kept gently open, and the patient recovered without having experienced one unfavourable symptom. When he left the hospital, there was not the slightest tendency to prolapsus.

The operation, in the preceding case, may be deemed by some surgeons to have been too severe, and they may suppose that Dupuytren's mode of excising three or four folds of the integuments round the anus, might have succeeded perfectly; but let them remember, that the protruded mass was much changed from its normal structure, and even if it could have been kept up within the sphincter, this was not to be desired. We admit that Dupuytren's operation is sufficient for most recent cases. For many years, Prof. Kluyskens has been in the habit of using the actual cautery to prolapsus of the rectum, and almost invariably with perfect success; the pain is by no means so severe as might be imagined, and the danger of consecutive accidents may be averted by judicious treatment.—*Med. Chirurg. Rev. Jan. 1835, from L'Observateur Medical Belge.*

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44. *Varicose Tumour on the Scalp of a New-Born Infant.*—The child was only six weeks old when Professor MERSSEMAN was consulted: the tumour was situated exactly over the posterior fontanelle; it had attained the size of a goose's egg, was uneven and "bosselée" to the touch; the skin covering it was rather thinner than usual, but it was not discoloured, except when the child cried, or made any struggle. and then it became livid; there was no pulsation, nor alternate rising and depression of its surface; but when the hand was gently laid upon it, a vermicular sort of movement might be felt; its base was nearly as broad as the body of the swelling. This tumour had been observed at the period of birth, and was then of about the size of a pigeon's egg. The health of the child was otherwise perfectly sound and robust, and there were no symptoms of any cerebral disturbance. There was a difference of opinion among the medical men who saw this case, as to the nature of the tumour: by some it was supposed to be an encephalocele, or hernia cerebri; but the absence of all symptoms indicating any disorder of the nervous system, even when pressure was made upon the swelling, was unfavourable to this idea: that it was not caused by the protrusion of the dura mater, in consequence of a hydrocephalic effusion beneath, was, for the same reasons, as well as from other very obvious considerations, quite improbable: the absence of any pulsatory movements, and the fact that there was no increase of heat in the swelling, pronounced it to be not aneurismatic. Although the diagnosis was certainly obscure, Dr. M. was satisfied that the venous system entered largely into its formation, if it did not entirely constitute it; and he was led to this opinion by the varix-like unevenness of its surface, by the vermicular movements felt on gentle pressure, and by the circumstance of its distention when the child cried, or struggled, so that



the return of the blood was somewhat impeded. Under this impression, he considered that the safest mode of treatment would be by a ligature put round the base of the tumour, and gradually tightened, until it sphacelated off. Fortunately, no unpleasant symptom followed the application of the ligature; it was tightened on the third day, and not till then did the integuments present any appearance of strangulation: in other 24 hours suppuration had commenced all round the line of the ligature, and as the discharge was rather fœtid, pledgets wetted with the solution of the chloride of lime, were kept constantly on the part. By the fifteenth day, the pedicle being then not thicker than a swan's quill, a ligature "de sûreté" was applied, and with one stroke of the knife the mass was detached: scarcely a drop of blood was lost. The exposed surface, (at the bottom of which the fontanelle might be touched,) began speedily to granulate, the ligature "de sûreté" dropped off, and in the course of a few days the sore was cicatrized.

On dissecting the tumour, it was found to consist of a bundle of veins, which had become enormously enlarged, so that at some points they formed almost spherical dilations: these veins were joined together with an adipose cellular tissue, which had been converted, in consequence of the sphacelus, into a purulent pappy substance. The important lesson was afforded by the examination, how dangerous it would have been to have either incised or extirpated this swelling.—*Ibid.*

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45. *Complete Luxation of the Knee.*—An instance of this exceedingly rare accident is recorded in a recent number of the *Bull. de Therapeutique*, by Dr. GORDE. The subject of the case was a woman of from fifty-five to sixty years of age, who, in returning home at night, with a heavy burden, and in a state of intoxication, stepped into a ditch as deep as up to the middle of her thighs. The body was thrown forward by the fall, whilst the feet stuck at the bottom of the ditch; the whole force of the impulse was sustained by the thighs. The left thigh was dislocated backwards and downwards, and lodged under the muscles of the calf of the leg. The limb was much deformed, and shortened three inches. The reduction was very easily effected, without the patient complaining. The articulation was covered with compresses wet with spirits of camphor and lead water; the limb kept at perfect rest, and in six weeks the patient was cured without any untoward symptom.—*Gaz. Méd. Oct. 25th, 1834.*

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46. *Case of unusual Dislocation of the Hip-joint.* By ROBERT KEATE.—I was called into the country, on the 13th of February, to see a gentleman who had met with a severe accident, by his horse having fallen backwards with him, and upon him, into a deep and narrow ditch; where he had remained, as he supposes, for near a quarter of an hour before he was discovered, when he was nearly exhausted by pain and by fruitless exertions in calling aloud for aid. The horse was lying on its back upon him, with his heels struggling in the air; but the gentleman, who is strong and muscular, appears to have retained a firm hold of the bridle, and thus to have kept down the horse's head, and restrained, in some degree, the violent efforts of the animal.

He had been brought home, and was on his bed when I arrived. On examining the limb, I found it unusually elongated, at least from three to three inches and a half. The thigh was much flexed upon the pelvis; the leg as much bent on the thigh. The whole limb was carried outward, or apart from the other, more than I had ever observed in any case of luxation. The knee and the foot were much everted; the trochanter extremely sunk, the soft parts being elevated in a circle around it. I found that the head of the femur was displaced in a very unusual manner, to a situation inferior to the ischiatic notch; and I felt it lying close to, and on a level with, the tuberosity of the ischium, where it was capable of being freely moved under my fingers.

Without noticing the unusual preparations for reducing a luxation, it will be



sufficient to say, that, in the first attempt, the head of the bone was thrown into the foramen ovale. A second extension enabled me to place it *nearly* in its proper position in the acetabulum, but it could not be perfectly replaced; and on gently moving it, and placing my ear on the trochanter, I felt and heard a distinct grating, as if of ruptured cartilage. By drawing the upper part of the femur outwards, (by means of a round towel thrown over my neck,) and pressing the knee sharply inwards, the head of the bone was replaced, with a snap, in the acetabulum; but even after this I was able to elongate or pull down the limb, and it was evident to me that this was owing to a portion of the cartilaginous labrum having been broken off during the violence of the accident.

The gentleman was quite aware, and mentioned, after the first step, as I may call it, of the reduction into the foramen ovale, that the head of the bone was not properly replaced; and he stated that the luxation had taken place by the same route, first into the thyroid foramen, and afterwards, while struggling in the ditch, from thence downwards to the situation in which I found it. The case has proved very favourable, but there was a severe injury at the same time to the knee, which threatens still to be troublesome.—*London Medical Gazette, Vol. X. p. 19.*

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47. *Excessive Prolapsus Ani.*—Dr. TAYLOR exhibited to the Anatomical Society of Edinburgh a specimen of this in a boy six years of age, of a scrofulous habit of body, very much deformed, and who, it was said, had been from infancy liable to slight attacks of prolapsus, but which, till this last, had been easily reduced. When first seen by Dr. Taylor, February 20th, 1834, there was a protrusion of about six inches of gut, of a bright cherry-red colour, much swollen and œdematous. It had prolapsed six days previously, and the patient had been suffering for ten days under severe diarrhœa, which still continued, with frequent slimy discharges, and much tenesmus. The skin was dry and hot; pulse quick; tongue furred; no pain of abdomen. Any attempts to reduce the intestine were unavailing, both owing to its great swelling and the severe straining of the boy, who complained much, and said he felt a great desire to go to stool whenever the gut was handled; besides, the very relaxed and distended condition of the sphincter gave little hope, even if the gut could have been reduced, of its being retained; more especially, as long as what appeared to be the exciting cause, viz. the diarrhœa, continued. In the hope of checking this, the usual remedies were prescribed. Next day the diarrhœa was unabated; rather more intestine protruded, very much swollen, and of a dark-red colour.—22d. Bowel complaint much the same, and there is now fully nine inches of gut down; appearance much as yesterday.—24th. Intestine more swollen, and here and there ash-gray coloured sloughs. From this period no more intestine protruded; the sloughs extended; several dropping off, discovered a dark livid base. The boy was now evidently sinking, and he died on the 29th.

*Sectio.*—On opening the abdomen, the small intestines appeared in their natural position, but on laying these aside, the cœcum was discovered dragged out of its natural situation and towards the left side. The colon was very much contracted and thickened, and on tracing it, no sigmoid flexure could be perceived, the whole of it seeming to have passed through the rectum, which was itself completely everted, not a vestige of it being within the anus. The mesenteric glands were also much diseased. Dr. Taylor having placed the preparation at the disposal of the Society, it was presented to the museum of the Royal College of Surgeons.—*Edinburgh Med. and Surg. Journ. Oct. 1834.*

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48. *Displacement of one of the Semilunar Cartilages of the Knee-Joint.*—Dr. REID exhibited to the Anatomical Society of Edinburgh a specimen of a displacement which seemed to correspond to the affection of the knee-joint described by Mr. Hey, under the title of Internal Derangement of the Knee-



Joint, and by Sir Astley Cooper, in his Surgical Essays, under that of Partial Luxation of the Thigh-Bone from the Semilunar Cartilages; but no dissections are given by either of these two surgeons.

The fibrous tissue connecting the outer margin of the external semilunar cartilage to the edge of the head of the tibia was torn through in its anterior half, and the semilunar cartilage was found thrown inwards and backwards, and placed between the spine of the tibia, posterior crucial ligament, and posterior ligament of Winslow. The transverse ligament was entire. The cartilage itself was considerably flattened and broader, and the remaining portion of the fibrous tissue, connecting its outer margin to the tibia, was much thickened, and had assumed somewhat of a fibro-cartilaginous appearance. The cartilage of incrustation on the anterior part of the tibia, which had been exposed to the free motion of the condyle of the femur, had become rough. The motions of the articulations seemed sufficiently free, as far as could be judged of in the dead body; but it can easily be perceived that when the connecting parts are less extensively torn than in the present case, or when the posterior ligament has been rendered tense by the action of the muscles in walking, that the cartilage may be forced between the condyle and spine of the tibia, producing the same effects as in the presence of a loose cartilage within the joint. The history of the case could not be traced. The man died in the Infirmary, and while there never complained of his knee, nor did the nurse remember to have observed any limp in his walk.—*Ibid.*

49. *Case of Spontaneous Luxation of the Vertebra Dentata.*—Dr. WILLIAM THOMSON has recorded in the *Edinburgh Medical and Surgical Journal*, for October last, an example of this rare accident. The subject of the case was a gentleman about sixty years of age, who enjoyed in general a good condition of health. For some years before his death he was subject to attacks of sore throat, which were occasionally of a severe character, terminating in the formation of large abscesses. Immediately before his death he had experienced a somewhat severe attack of cold; but from this had so far recovered, that, with the consent of his medical attendants, he was to have driven in a carriage a few miles out of town on the day on which he died.

On the morning of that day he was found dead in his bed, lying on his back, very far up in bed, with his head thrown very much backwards, and hanging over so as to be almost behind the pillow. His countenance was very pale, and from the temperature of his body it was supposed that he could not have been dead more than two hours, but nothing could be discovered justifying an opinion at what particular time, or in what particular manner, death had occurred. The various organs were examined without any thing being detected to account for his sudden death, and the examiners were about to relinquish all hopes of detecting the cause of death in any organic lesion, when a round knob was observed projecting into the *foramen magnum*, at the posterior margin of the basilar process of the occipital bone. At first this knob was supposed to be a tumour growing out of the basilar process, with which it appeared to be in continuity, but on accurate examination, by rotating the head whilst this knob was grasped by the fingers, it was found to be the *processus dentatus* of the second cervical *vertebra*. As examined through the *foramen magnum*, no mark of disease could be discovered, either in the process itself, in its ligamentous coverings, or in the adjacent *vertebræ*; and no laceration of the coverings, or of the substance of the spinal cord, had been produced by it.

We have to regret that the length to which our examination had already been carried, and the impossibility of bringing the parts into view without mangling the body to a degree which we were not warranted in doing, prevented us from ascertaining the exact state of the *vertebræ* and their ligaments; but, by dissecting from the *nucha* round the *vertebræ*, we were unable to detect any swelling or other traces of inflammatory action either in the bones, or in their connecting cartilages and ligaments.



Neither Mr. B.'s medical attendants nor his relations had ever heard him make the slightest allusion to any pain or uneasiness in the region of the neck, and the only circumstance which occurred to them as bearing in the most distant degree, on the supposition of disease existing in this region, was a habit he had of occasionally twitching his head to a side, as if to relieve himself from some tightness of his shirt collar or neckcloth.

The only similar case which Dr. Thomson has been able to find on record is the following in the *London Medical Gazette*, Vol. III. "Mr. Wilson assisted Mr. Cruikshank in examining the body of a woman, aged thirty, who had lain-in about a month before. She had been heard suckling her child at one o'clock in the morning; at four she was found dead. The viscera of the abdomen, thorax, and head, were carefully examined, without finding any thing to account for her death; when, as they were returning the brain into the skull, Mr. Wilson noticed a considerable projection on the fore-part of the *foramen magnum*. On examination, this was found to be the denticular process of the dentata luxated backwards, and which had produced a degree of pressure on the spinal marrow sufficient to destroy life."

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50. *Mastic for filling Carious Teeth*.—Various articles are employed for filling the cavities of carious teeth, but when the cavity is large or the nerve painful, the soft fillings hitherto used are not sufficiently adhesive, and the hard ones cannot be introduced with sufficient force on account of the pain produced. The following composition has been recommended under such circumstances. This consists of mastic resin of the *pistacia lentiscus* four parts, sulphuric ether one part. The resin is readily dissolved in the cold ether, in a closely stopped vessel. It forms a citron yellow liquid of an oily consistence; exposed to the air it flows like melted butter, soon leaving a soft pitchy residue, which, when cold, becomes friable, but which is easily softened by the teeth.

This is used by steeping in the solution a piece of cotton of the proper size, and introducing it into the cavity of the tooth, previously well dried and wiped. With the heat of the mouth the ether is quickly dissipated, and a resin remains which attaches itself to the internal asperities of the carious part. The resin becomes sufficiently soft to remain in the tooth without becoming friable, and by this means the tooth is protected from the action of the air and of cold or hot food.—*Journal de Pharmacie*, October, 1834.

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51. *Spontaneous Dry Gangrene Cured by Bleeding*.—A countryman, forty years of age, admitted into the Hôtel-Dieu, presented in the hands and feet that rare variety of gangrene which some authors have denominated "white gangrene." The fingers were pale and of an icy coldness; the second and third phalanges were wasted, and, as it were, mummified; the form of each finger was conical or fusiform; the nails were puffed out and had a chalky appearance; the skin round their bases was slightly ulcerated. The last phalanges were completely insensible; in the others, the patient felt a sense of formication and extreme cold; he had no power of moving the fingers; the skin was white and dry like parchment, and emitted no gangrenous smell. The appearance of the feet was nearly similar to that of the fingers; presenting the same icy coldness, the loss of all voluntary motion, and the absence of pain. The ears, nose, and lips of this man exhibited a remarkable deficiency of their usual warmth and colour. The action of the heart was vigorous, but rather irregular. The other functions of the body were in a normal condition; the patient said that he felt very well inwardly, and that his only reason for coming to Paris for advice was, that he had been unable to use his hands at any work for the preceding four months. The previous history of the case, as far as it could be well gathered from the patient's account of himself, was as follows:—

The disease had commenced four years ago, but had varied a good deal in intensity at different times, according to the season of the year; alternately abating and increasing. It was generally worse during the heats of summer,



especially when the patient was exposed to the direct action of the sun. During the first years, this species of glacial torpor, or asphyxia, did not last beyond a few days; the fingers, however, did not regain at any time their natural warmth and flexibility.

No satisfactory cause could be assigned for this singular disease. Rigid inquiries were made respecting his food, but nothing satisfactory could be ascertained to account for it. His occupation had been that of a thresher of corn. His general health had been, as already stated, perfectly good.

M. Dupuytren, regarding the disease as an inflammatory affection of the arterial capillaries, akin in its nature to what takes place in the gangrena senilis, resorted to the same mode of treatment, which he has been in the habit, for many years past, of employing so successfully in the latter species. The patient was bled from the arm, poultices were applied to the parts, and a moderate diet enjoined. In the course of eight days, the heat, colour, motility, and sensibility of the hands and feet were restored, as if "par enchantement." The patient was advised to have recourse to the same treatment, if the disease should ever return.—*Med. Chirurg. Rev. from Revue Méd.*

52. *Case of Incised Wound of the Throat.* By DR. A. GILMORE.—The wound, which was inflicted with a sword, occupied the interspace between the thyroid cartilage and os hyoides; it penetrated to the pharynx, but no important blood-vessel was divided; the incision gaped frightfully, and when the muscles of the part were thrown into convulsive action, several fingers might have been introduced into the gullet at once. Nevertheless, when the edges of the wound were in apposition, and the cut was covered with a bit of lint, the patient could utter articulate sounds.

As the man was deprived of the power of deglutition, he subsisted on fluids which were introduced into the stomach by means of the flexible tube, during the whole of the healing process. Under this plan the case terminated favourably; the wound healing by granulations, and at the date of his dismissal from hospital he had the full powers of deglutition, and could also articulate distinctly, though a small fistulous orifice still remained in the throat.—*Transactions of the Medical and Physical Society of Calcutta, Vol. VI.*

## MIDWIFERY.

53. *Aqueous Discharge after Parturition.* by SAML. ASHWELL, M. D.—Discharges of water from the uterus are not unfrequent during gestation, and they are occasionally occurring in the unimpregnated condition of the organ. I am, however, disposed to think that the passing away of pints of watery fluid, soon after labour, by gush, in the first instance, and afterwards by draining, is a rare occurrence. Had it been otherwise, it would certainly have been noticed in some of the valuable works we possess, and it would have become a topic of discussion in medical society.

In the subjoined cases it will be seen that the labours were natural, although somewhat protracted and severe. The patients were delicate women, but free from serious illness: indeed, there was nothing in the labour, or in the condition of the system immediately preceeding it, with which the discharge could have been satisfactorily associated, as its cause. The principle dangers connected with this morbid secretion appear to be of the inflammatory kind. The weak and rapid pulse, the tenderness and enlargement of the uterus, and the almost entire suppression of the milk and lochia, plainly point to puerperal mischief, too likely, when the danger is not averted, to terminate unfavourably. It is, perhaps, singular that the mucous lining of the uterus should secrete a serious or aqueous discharge, especially when such discharge of water is not dependent on the membranes inclosing the fœtus; but we know that the mucous



lining of the nostril occasionally pours forth large quantities of aqueous fluid; and there seems no reason why, under a like derangement of function, the lining membrane of the uterus may not do the same.

That this affection decidedly interferes with the consecutive series of events following parturition, is evident, from the suppression of the lochia and milk, as well as from the scanty secretion of urine: it may, therefore, be placed in the class pyrexia.

I cannot state with certainty what might have been the effect of a vigorous antiphlogistic treatment; because, in the cases related, a modified plan was pursued. As, however, the affection may be regarded as catarrh of the uterus, attended by inflammation, cases will probably occur in which depletion to a greater extent will be required. There can be no doubt that the lining membrane of the uterus furnishes the discharge. Under natural and healthy puerperal circumstances, the same membrane, then possessing considerable extent of surface, pours forth the lochia. This secretion, we know, is at first sanguineous, subsequently it becomes paler, but is still mucous; nor is it till many days have elapsed that it assumes a leucorrhœal or serous character. The derangement of function, which is productive of this "aqueous discharge," instead of the lochia, is the disease now described.

CASE I. Mrs. G—— was confined on Saturday, November 6th, 1830, of her fifth child. The labour was severe, but perfectly natural.

*Sunday, November 7th.*—Complains of a good deal of pain in the hypogastric region; the uterus is large and tender; pulse 120, but neither full nor strong. Urine scantily secreted; scarcely any lochial discharge; and the afterpains not at all severe. Ordered castor oil, bran fomentations to the belly, and six grains of Dover's powder, in common saline mixture, every six hours.

*Monday, 8th, 5 P. M.*—I was hastily sent for. On my arrival I found the nurse, as well as the patient, much alarmed; there having occurred suddenly a very copious gush of transparent, colourless, inodorous discharge from the uterus: at least three pints had escaped. The bed was wetted entirely through, and a pool had formed about the lower part of the person. The fluid had scarcely any taste, and closely resembled water. She was exhausted; pulse quick, 130; and she was altogether hurried and alarmed. There was neither tension nor fulness of the mammæ, indicating the secretion of milk; the uterus was not so large as on the previous day, but very tender to the touch. There has been no lochial secretion, and only a scanty discharge of high-coloured urine. She was made comfortable by the removal of the wetted linen. A draught composed of *thirty* minims of aromatic æther and the aromatic spirit of ammonia was immediately given, and she was allowed some bland nourishment. The other remedies were ordered to be continued as before.

*Tuesday afternoon, the 9th.*—I have seen her several times since last evening. The "aqueous discharge" still continues, *twenty* napkins having been used: it is not all streaked with blood, nor is there any appearance of lochial or mucous discharge. After sleep, the water comes away in slight gushes, but by draining at other times. The urine is still scanty and high-coloured; pulse 120, small and compressible; the breasts are quite flaccid—the child, therefore, is fed. Abdominal tenderness less; uterus better contracted, still reaching half way between the umbilicus and pubes. Continue the remedies.

*Wednesday.*—Bowels have been naturally relieved. Urine still sparing in quantity and high in colour; pain of the abdomen less, and uterus not so tender to the touch. Pulse 100; debility excessive; little or no secretion of milk; "aqueous discharge" still very abundant; no lochia.

After this period, no distressing symptoms occurred, if the languor and extreme debility be excepted. The discharge of water continued for twelve days; for the last six it was evidently on the decline. The milk was never naturally nor healthily secreted; the child, in consequence, being brought up by hand.

CASE II. Mrs. T——, æt. 28, a woman of spare and delicate habit, and the mother of five children, was confined December 8th, 1832, of a fine healthy boy,



after a natural and quick labour. I visited her some hours after, and I found her suffering severely from afterpains. Pulse 120, sharp, yet compressible. Bladder rather distended, and uterus large. Ordered half a grain of opium, and three grains of calomel; directing a table-spoonful of castor oil early on the following morning.

*December 9th.*—I was requested to see her in the afternoon, in consequence of a discharge of water, which had exhausted and alarmed her. I found that she had lost between two and three pints of limpid inodorous fluid, and it was still draining away. The uterus had descended behind the pubes; it was not large, but very tender. Pulse 130, small and feeble. There had been no lochial discharge, and she had passed once a large quantity of urine. Ordered bran fomentations, Dover's powder, grs. *vj.* every six hours; and enjoined perfect quietude.

This patient went on just as in case 1., only that there was some secretion of milk, and the child was partly nursed. She was much debilitated, and the discharge did not cease for ten days.

**CASE III.** Mrs. Penkin, *æt.* 40, the wife of a labourer, has had several children; her labours good, with the exception of a temporary state of melancholia. She is of sallow complexion, and has ailed greatly during the present gestation. For the last three days she has been suffering; and owing to the increase of her pains, the presence of Mr. Cotton was requested. Her labour was natural, although severe; and there having been copious losses of blood in her preceding deliveries, Mr. Cotton bandaged the abdomen, and exhibited  $\mathfrak{zss.}$  of the ergot, previously to the expulsion of the placenta. Things went on comfortably until the fourth day, when Mr. Cotton was sent for. He found his patient had passed a bad night, and complained of severe pain in the hypogastric region, which was accompanied with the greatest pain on pressure; her pulse was small, 115; urine scanty and high-coloured; and there had been a discharge of transparent watery fluid, sufficient to soak from twelve to twenty napkins. Bowels confined. Leeches and fomentations were ordered to the abdomen; calomel and opium to be given, with an ounce of castor oil, the following morning, if the bowels remained unacted upon.

*5th day.*—Very low, and in great distress of mind, saying she should never recover. Her abdomen was tympanitic, and tender to the touch; countenance pale, and bowels still unmoved; her pulse 120, small and weak; the discharge the same in quantity. At the suggestion of a relative, for whom Mr. Cotton attended, he introduced the catheter, and drew off eight ounces of high-coloured urine; but this effected no mitigation of the symptoms. Cataplasms were ordered to the abdomen, and an enema with *Ol. Terebinthinæ*,  $\mathfrak{zjss.}$  exhibited.

This had the effect of opening the bowels, which greatly relieved the tender and painful condition of the abdomen. The pulse also became fuller, 108. *Pulv. Ipecac. Comp. gr. x.* were ordered at bed time.

On the sixth day she was much improved; her pulse soft, 100; the discharge was also lessened, soaking but ten napkins in the twenty-four hours. Light farinaceous nutriment was allowed, and saline medicine exhibited. On the eighth day, gradually getting better; eats with appetite, and the discharge has diminished, although she still uses from five to ten napkins a day; it continues limpid, and devoid of odour. Owing to Mr. Cotton leaving the country, he resigned the charge of the case; but he learned that the discharge became by degrees lessened, till at length what was left was little in quantity, and very thick in substance.

It is worthy of observation in this case, that the lochia were suppressed after the second day; and there was never any secretion of milk.

**CASE IV.** Mrs. T., aged thirty-two, of a spare habit, and delicate state of health, was delivered in the forenoon of August 2d, of her first child, a fine healthy living girl, after a severe but natural labour of thirty hours' duration. The placenta was expelled by the uterine action in about half an hour. The first two days the lochial discharge was very profuse, and rather offensive, with



considerable disturbance of the system; the pulse from 100 to 120; the countenance pallid, and the lips almost exsanguineous. There was profuse perspirations; the abdomen was soft; and there was no pain produced by pressure; the secretion of urine was scanty, but passed without difficulty.

On the evening of the fourth day she complained of considerable enlargement of the abdomen, but without pain or tenderness; and on the following morning the nurse was hastily called to the bed-side, the patient supposing sudden hæmorrhage had taken place; but on examination, it was found a large flow of colourless fluid had been discharged, to the amount of about a quart. This continued for eight days, in a quantity sufficient to saturate a dozen napkins in the twenty-four hours. The discharge does not dribble away, but escapes in a sudden flow, preceded by a sensation of itching, and a slight bearing down.

*9th day.*—The discharge is evidently abating, as not more than three napkins have been wetted with it.

Mr. Burn remarks in his letter to me, dated fourteen days after the labour, “that his patient is still greatly debilitated, and has never experienced any secretion of milk. The lochial discharge still continues in small quantity.”—*Lond. Med. Gaz. September 6th, 1834.*

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54. *On the Absorbent Power of the Uterus.* By Professor NÆGELE, of Heidelberg.—The celebrated accoucheur, author of this memoir, published in the *Annales de Heidelberg*, for the year 1828, a paper upon the retention of a part or of the whole of the placenta within the uterus. The remarks which follow are the conclusion and the confirmation of the opinions which were promulgated in the first memoir.

Madame K. thirty years of age, of a scrofulous diathesis, was delivered of her first child, a healthy boy, on the 5th of September, 1830, at 2 o'clock, P. M.; but the placenta was not expelled, and the midwife merely placed the umbilical cord upon the thigh of the patient. The uterus had contracted, the discharge of blood was slight, and there were no indications which would induce the practitioner to separate the placenta. The patient did not experience any uneasiness. The following day it was decided in consultation that an attempt should be made to extract the placenta, but it was found, on introduction of the hand, so intimately united with the uterus, that it would have been imprudent to have endeavoured to detach it. The treatment was confined to injections of infusion of sage and chamomile. On the 7th of September new attempts to detach the placenta were not followed with success. The same day the abdomen became painful in the left iliac region; the pulse from 90 to 100 pulsations, the tongue white, thirst excessive, urine loaded, and the stools suppressed since the accouchment. Lochia slight, of a fœtid odour.

The 8th of September, the patient was exhausted, scarcely answering questions addressed to her. The skin bathed in a fœtid sweat, tongue covered with a thick and tenacious coating; pulse very weak, from 115 to 120 pulsations; the thighs, hips, and the forearms covered with a vesicular eruption, which caused acute pains; the lochia, of an excessively fetid odour, were very trifling; the stools, on the contrary, were liquid and very numerous. A last effort was made to detach the placenta. It was unsuccessful as the others had been.

The state of the patient was, as may be supposed, very critical. It remained the same during fifteen days; but at the end of this time the alarming symptoms disappeared by degrees, and at the end of three months the recovery was complete. The parts had returned to their natural condition; the uterus was of its usual size; the neck presented no traces of swelling; and besides, notwithstanding the most minute examination, not the smallest fragment of placenta could be detected as having escaped.

The director of the veterinary school at Utrecht, M. Numauer, has also published many observations upon the fœtus of animals retained and dried up in the interior of the uterus. The essential condition for this desiccation to take place is the disappearance of the liquor amnii; then the fluids contained in the body



of the fœtus are absorbed by the uterine parietes as soon as they transude through the skin. This is a phenomenon precisely analogous to that of the dead bodies which are dried and become mummies in certain caves; the parietes of the uterus play the part of the dry air in the caves in which the carcasses are preserved.

These facts have a most important practical application, viz. that in abortions at three, four, or even five months, it is not necessary to attempt the extraction of the placenta when retained in the uterus, by means of instruments, although this practice has been advised by the celebrated B. Osiander. It will also be useless to search minutely for the small fragments of placenta which could remain in the uterus after the delivery; the manipulations which such attempts necessitate, being more dangerous than the presence of these fragments, which would disappear either by floating out with the lochia, or by means of absorption.—*Rev. Méd. May 1834, from Annales Clinique de Heidelberg, Vol. IX. No. 2.*

55. *On the loss of Blood during Labour, in consequence of the Rupture of a Varix.*—Varicose tumour is of so serious complication in labour that the following cases will be read with interest.

CASE I. A woman of strong constitution, forty-one years of age, pregnant with her fifth child, was seized with labour pains on the evening of the 17th of August. When the membranes had burst, and the liquor amnii was discharged, the pains gradually abated. Soon afterwards, however, upon the patient being put to bed, a severe and lengthened pain came on, and the midwife now found that the left labium had become immensely swollen and discoloured. Dr. ELSASSER was immediately summoned; but, before his arrival the tumour had burst, and a quantity of black blood been discharged. The woman became immediately exhausted, then convulsed, and she died within half an hour after the accident. The child was extracted after the death of the mother, but it also was already lifeless.

*Dissection.*—On the inner surface of the left labium was found a rent, an inch and a half in length, through which the fingers might be passed into a vast cavity, containing a considerable quantity of clotted blood. On the right labium, and on the inner side of both thighs, were several varicose swellings, which no doubt would have burst at some future period, had the patient lived, and been exposed to strong efforts of any kind.

CASE II. *Rupture of the Varix—Death.*—The labour had continued for upwards of twenty hours, when the “sage femme” found to her consternation that the right labium was much distended and discoloured, and that blood was dripping from its inner surface. Notwithstanding her alarm, she did nothing more than merely apply a wet rag to the abdomen. In a quarter of an hour this poor patient was a corpse. Dr. RIECKE, who arrived two hours after the patient’s death, examined the parts, found a rent, two inches long, on the inner surface of the right labium; it led into a sac, of nearly four inches in circumference, and which extended under the os pubis, and on the outer side of the ascending ramus of the arch: at the bottom of this sac was seen the ruptured orifice of the varix. This patient was about forty years of age. The pelvis was somewhat contracted in its dimensions.

CASE III. *Rupture of the Varix—Death.*—Dr. ELBERT was summoned to the assistance of a woman in labour, but she had just expired on his reaching the house. She was about thirty-four years of age, and the mother of seven children. The labour had begun favourably, and the pains had been at first regular and steady. On a sudden the woman felt that a quantity of fluid was running away from her, but she thought that it was the “waters;” the nurse, however, found that it consisted chiefly of blood: in half an hour the patient expired. The corpse presented an exsanguine appearance, the face and extremities being blanched like white wax. On the right labium, which was considerably swollen and of a livid colour, were seen three ragged wounds; through each of these, the



finger could be passed into a large cavity, which still contained a quantity of black coagulated blood. On the left labium, and also on both thighs, there were numerous varicose distentions.

In the three preceding cases, the action took place before the expulsion of the child, and in all, the child was dead when extracted. In the following case the delivery had fortunately taken place before the rupture of the varicose swelling.

CASE IV. *Rupture of the Varix—Recovery.*—Immediately after the expulsion of the fœtus, the external parts became enormously swollen, and at length the integuments gave way at one point, and an alarming hæmorrhage took place. Prof. RIECKE, who was called to this case, immediately applied rags dipped in cold water, which arrested the flow of blood; and the exhausted strength of the patient was then supported and revived by sinapisms to both legs, and by a cordial medicine exhibited frequently.

CASE V. *Varicose Tumour high up in the Vagina—Rupture—Death.*—A woman, forty-six years of age, mother of eight children, suddenly expired in labour. Dr. CARUS found on his arrival that the head of the child was detained in the outlet of the pelvis; he delivered it with the forceps, but not without experiencing considerable difficulty; for the dimensions of the pelvis were rather confined. On introducing the hand afterwards to extract the placenta, he found near the cervix of the uterus a ruptured varicose tumour; the rent was about an inch long, and the extent of the cavity about two inches all round. The head of the fœtus, when extracted, was found covered with clotted blood.

*Reflections.*—The preceding cases point out the characters of this species of puerperal hæmorrhage, which depends upon a varicose state of the veins of the vagina and neighbouring parts.—The distention of these organs during parturition and the consequent impediment to the free return of the venous blood, sufficiently account for the almost invariable occurrence of the accident either during its progress or immediately after it is over. Perhaps in most cases there is a simultaneous abridgment of the dimensions of the pelvis; or, at least, some existent cause of obstruction to an easy labour, either on the part of the mother, or of the child. We observe from one or two of the cases now recorded that the hæmorrhage may be speedily fatal; and indeed we cannot wonder at this when we consider that there is a free communication between the veins of the womb on the one hand, and of the thigh on the other, with those of the vagina.—*Arch. Gen. Aug. 1834, from Med. Correspondenz-Blatt, Jan. 1, 1834.*

56. *Twisting of the Umbilical Cord around the Body and Limbs of the Fœtus.*—Dr. SIEBOLD has published an interesting memoir on this subject. According to this author, the funis is most frequently twisted around the neck, next around the upper limbs, next the lower, then the perineum, afterwards the chest, and lastly the abdomen. In 344 deliveries, at the Maternité of Marburg, the funis was found twisted around the fœtus in 63 cases, viz:—51 around the neck, making one turn in 49, two turns in 7, and three turns in one case, in which the cord was forty-two inches. In the three infants the cord surrounded, at the same time, the neck and abdomen, in another the neck and thigh, and in the third the neck, the chest, and the thigh. Once the cord was twisted around the thigh alone, and once around the abdomen. In all these cases the cord was generally twenty inches long; and examples have occurred in which it was from thirty to forty inches long, without being twisted around the fœtus.

It has been proved that the cord often surrounds the embryo in the early months of gestation; for at the fourth and fifth months its length is much greater than that of the fœtus. The motions of the mother, and those of the fœtus, when the liquor amnii is very abundant, may favour the twisting of the cord, and this twisting may occasion fatal results. The aborted fœtus frequently presents this twisting of cord around it, and we often see atrophied parts and curved bones resulting from the compression; but delivery can always be ef-



fects, although the constriction of the cord around the neck sometimes destroys the life of the infant; it sometimes also saves their life, by preventing the prolapse of the cord, which is a more dangerous occurrence than its being twisted. When the cord surrounds the neck, Dr. Siebold advises that the ring should be enlarged by gently drawing on the placental portion, so that the whole body of the child passes through this ring. If this cannot be accomplished, it must, he says, be divided, and tied immediately after birth. In hip presentations, when the infant is astride the cord, this must be placed at the side of the fœtus, by drawing upon its placental portion.

This dissertation is accompanied with a plate representing two fœtuses. In one the cord from the umbilicus passes around the left elbow, over the chest; surrounds the neck, passes behind the right shoulder, over the abdomen, and is twice spirally twisted around the right thigh. In the other the funis proceeds from the umbilicus to the neck, around which it is once twisted, passes under the right arm pit, is then again twisted around the neck, and terminates at the placenta.

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57. *Case of Abortion, with Retention of the Placenta; a second Pregnancy, with Abortion again, and the Discharge of the Ovum and Placenta of the preceding Fœtus.*—This very remarkable, and, we believe, unique case, has been communicated to the *Gazette Médicale de Paris*, (October 11th, 1834,) by Dr. PIRONDI, of Marseilles. The subject of the case was a lady thirty-eight years of age, who had been married at eighteen, and during the space of twenty years had been fourteen times pregnant; but only two of the children, the first and second, came to maturity. On three occasions the placenta remained for a longer or shorter time in the uterus after the expulsion of the fœtus. The abortions could not be ascribed to any particular cause. When in her eleventh pregnancy, Mad. ——— was attacked with rheumatism; a few days afterwards, and about the fourth month of utero-gestation, she aborted, and the placenta remained behind until the third day, when it was, after many attempts, extracted. In 1832, in her twelfth pregnancy, she again aborted at the same period, of utero-gestation, the placenta *adhering* to the uterus, and several efforts to remove it being ineffectual. An abundant and puriform discharge took place, and sixteen days after the abortion the placenta was expelled, whilst the patient was making efforts to urinate. At the end of December, 1833, Mad. ——— aborted for the sixteenth time, and the placenta was again retained. The medical attendants being aware of what had previously occurred, made no attempts to extract the placenta. The lochia were copious, very thick, and very fœtid. A short time afterwards the menses reappeared, but mixed with a small white, almost puriform discharge, and which continued during the intervals of menstruation. The patient experienced constant pain in the epigastric and lumbar regions. Four months after this last abortion, the menses ceased, and Mad. ——— experienced symptoms of being again pregnant. Towards the third month of this pregnancy, the patient was attacked with a profuse uterine hæmorrhage, for which she was bled. The abdomen, at this time, appeared to M. Pironi much larger than usual at the third month of pregnancy, and he supposed the patient must have made a mistake, and was in her fifth month. The uterine efforts increased in activity, and on visiting the patient M. P. found between the thighs of his patient a placenta, with its cord, and the fœtus half out of the vulva. A strong pain, an instant afterwards, delivered the patient. A quantity of extremely fœtid gas was then discharged. On examination the fœtus proved to be a three months one; the placenta was entire, the cord small and twisted, inserted nearer to the circumference than to the centre of the placenta, and exhibiting incipient disorganization at its base, and extending to the extent of an inch around its insertion in the placenta. Shortly after the delivery of the fœtus, the uterine pains were renewed; and M. P. thinking that they were incited by a clot of blood, intro-



duced his hand to extract it. He was much surprised at meeting, near the neck of the uterus, which was much dilated, a large round and firm body, which was with difficulty extracted. Observing, on its delivery, that it was a placenta, M. P. feared that it appertained to another fœtus, and he instantly introduced his hand into the uterus, but found its cavity unoccupied; it then occurred to him that this last might be the placenta which had remained in the uterus at the previous abortion. This placenta was five and one-fourth inches in diameter, almost two inches thick at its centre, and the insertion of the cord could not be distinguished; black and rugged on its surface; its consistence was moderate nearly throughout; however, a fifth of its circumference was deficient, and the borders of the excavated portion was softened and in a very advanced state of putrefaction.

58. *A Cancerous Ulcer at the Neck of the Uterus, cured by Cooling Injections.* By Dr. F. ALLIOT, of Montagny.—Madame de St. M——, a brunette, of nervous temperament, aged 28 years, living at Livry, (near Paris,) had been affected for four years with a disease of the neck of the uterus, for which she had consulted in vain the best surgeons of Paris. By the aid of the speculum, an ulcer was perceived on the neck of the uterus, its bad aspect, as also the fœtid and sanguinolent discharges, the lancinating pains of which it was the seat, left no doubt of its cancerous nature. Besides, every treatment had failed, and notwithstanding the employment of all kinds of injections, depletion, moxas, fumigations, baths, &c., the disease had always retained its ascendancy, and had reduced the patient almost to a desperate condition. When she applied to me at the commencement of the year 1831, her emaciation was extreme, and she was so weak that she could scarcely hear or understand anything; at times she was incapable of connecting two ideas, her digestion was lost, her chest was affected, the uterine discharges were constant, sanguinolent, and fœtid; the pains were intense and frequent at that time, the only remedy that was employed was bleeding every two months. I first prescribed bleeding, which exhausted the little strength which remained. I then placed her on the most vigorous diet, and as the principal therapeutic means, I confined myself to the application of cold to the ulcer itself. But the patient, suffering from her chest, I feared that the impression of cold might be propagated to the lungs, and thus prove promptly fatal. I therefore contrived a sure barrier to its transmission. The patient was emersed up to the top of the chest in a warm bath, a flexible tube of a sufficient length was introduced into the vagina, until one extremity was in contact with the neck of the uterus, while the other was free above the surface of the water. An intelligent assistant directed into this tube a stream of water, at first tepid, then cool, at length cold; this kind of *douche* was prolonged from a quarter to half an hour. In this manner the application of cold produced the good effect I had anticipated, without its unfavourable reaction on the chest. At the end of one month I made an issue, successively in each arm, at the end of some months the ulcer had entirely healed, and the general health of the patient was much improved. In time, she was completely reëstablished, and for three years the cure has continued. I recommended the patient in order to prevent any chance of relapse, to restrain herself to a moderate regimen for six years.

This method of treatment would snatch many patients from the grave, for when the operation had become of no avail, and might almost preclude the necessity of this cruel remedy. This is more important than it may appear. For example, I have never seen those little tumours which are developed in the breast return, when cured by patience and suitable therapeutic agents; but when removed by the knife, I have almost invariably seen them re-produced. The bloody operation then provokes relapse; it appears indeed to render it inevitable.—*Med. Gaz. May 30th, 1835.*



MEDICAL JURISPRUDENCE.

59. *On the Death of New-born Infants depending on anormal States of the Umbilical Cord.* By Dr. KOHLSCHWETTER.—The funis may cause the death of the child, 1st, by its prolapsus; 2dly, by becoming knotted; 3dly, by being twisted round the child; 4thly, by its shortness; 5thly, by the situation in which it is placed in a footling delivery. Authors do not agree in the cause of death in these cases; some attribute it to anemia, others to apoplexy, others to asphyxia, or rather the loss of the pulmonary function; and a fourth class, to the deficiency of nutritive juices which the funis can no longer transmit to the fœtus. Among these opinions we shall notice those alone which have enjoyed some degree of reputation.

1st. *Anemia.*—Minelhauser advised, (in 1754,) that the funis should be cut and tied to prevent the child dying of anemia, in cases of prolapsus of the funis, or during a footling labour. This opinion was adopted by Stolper in 1807; and, according to this author, the tunics of the umbilical arteries are thicker and have more elasticity than the vein, and the blood circulates with more force in the former vessels. Hence the arteries will be less exposed to compression than the vein, and the blood not being returned, anemia will arise from hæmorrhage. He thinks that the truth of this theory is demonstrated by the paleness of the child, and by internal signs of hæmorrhage; but his opinion has not been corroborated by dissections. This theory is obviously improbable to the last degree, for it is not only opposed to the structure of the funis, which does not allow the vein to be compressed without the arteries, but moreover, in children who have sunk under pressure of the brain, there has never been a deficiency of blood, which is the only sign capable of demonstrating that hæmorrhage was the cause of death.

*Plethora.*—The authors who suppose that death takes place from this cause, by no means agree as to the kind of plethora which arises, for, according to some, it is general, and, according to others, partial. The reasons they urge in favour of their opinions are diametrically opposed to the writers before mentioned; for those with whom we have to do at present suppose that it is not the vein but the arteries that are compressed. It should not be forgotten, however, that there is no mechanical obstruction to the circulation, even if the umbilical vessels are obstructed. And, in fact, the pulsations of the heart often continue for more than ten minutes in children born in a state of asphyxia, from compression of the cord.

*Medico-legal Questions.*—The different conditions of the funis may lay the foundation for so many difficult questions in medical jurisprudence. First of all, we must not forget to declare that respiration, while the child is in the vagina, is a possible occurrence. Artificial insufflation of the lungs may give rise to great difficulties; for if it is true that a congestion of blood may take place in the lungs of the fœtus which has not breathed, in consequence of the suppression of the umbilical circulation, we lose the diagnostic sign by which it has been attempted to ascertain whether the respiration has been natural or artificial. This is one of the weightiest objections brought forward by Jaeger against Plouquet's test.

Knebel and Bernt have supposed that prolapsus of the funis may be known to have taken place by the contusion and ecchymosis of the parts of the cord which have been compressed; and in a case of prolapsus Michaelis observed two red and ecchymosed spots on the cord. But this sign is not always present, for the pressure on the cord is often not great enough to cause ecchymosis. The attention of the physician ought to be particularly directed to the head, where he will find the traces of a bloody tumour, even if it has already disappeared; for if the child dies during the beginning of labour, the swelling is then to be seen in the middle of the sagittal suture, whereas in new-born infants it is in the upper and posterior quarter of either parietal bone. More.



over, it must be remembered that children may be born alive, in spite of the prolapsus of the funis, but in such a state as to die after having breathed feebly.

When a knot upon the cord has been produced a long time before delivery, it leaves furrows in the spot where it has existed, as a trace of the meeting of the parts which had formed it. The very moment that the knot is untied, the cord swells a little, and shows such a tendency to remain knotted, that, if it is relaxed and pulled out, it immediately returns to its former state. But it is not so with a knot of recent formation; when once undone it leaves no trace behind.

The twisting of the cord around the neck of the child is a source of much doubt to the medical jurist; for neither experiments on the lungs, nor the ecchymosis around the neck of the child, nor the external and internal signs of asphyxia, will empower him to decide whether the death has been produced by accident or design. A very remarkable case is mentioned by Jaeger. A woman was secretly delivered of a child, who came into the world in a state of half-asphyxia, the cord being twice twisted round its neck; and the mother was accused of having strangled it. There was a deeper and narrower mark around the neck of the child than the cord would have made; there was no ecchymosis, and the lungs were but little expanded by air. The cranial and thoracic cavities contained a great deal of blood. The question was ably resolved by the College of Physicians at Wurtemberg, and their decision was confirmed by the confession of the prisoner. In Servaès' case, the mother strangled the child with the funis itself. The fact narrated by Schwartz is still more replete with difficulties. In a face presentation, the child came into the world dead, and with its neck tightly squeezed between two circumvolutions of the funis. A livid zone surrounded the neck, causing a depression sensible both to the sight and touch. The face was rather swelled, but not livid, and all the rest of the body was covered with livid spots. The coronary vessels of the heart and stomach were gorged with blood, as well as the right auricle; the left auricle was empty and flabby. The lungs seemed gorged with blood, and sank in water. The veins of the abdomen were swelled; there was no congestion in the brain. If to this we add, that the child, presenting by the face and in the most favourable position for respiration in the vagina, might have breathed, we shall have all the signs of suffocation by strangulation. It is therefore with justice that Plouquet, Knebel, Henke, and others, have considered the solution of the problem in similar cases as exceedingly difficult. According to Adolphus, Plouquet, Henke, Hinze, Platner, and Bernt, the twisted cord may leave a livid zone around the child's neck. Klein and Elsasser are of the contrary opinion, and do not allow the possibility of a zone produced by the funis during labour. Albert observed a livid mark situated in the axilla, seven lines long and two lines broad, but a portion of the funis was compressed. An important distinction, however, is to be made. If there is a band of ecchymosis around the neck, it ought not to form a perfect circle, but the two ends should cross one another. If the circle is perfect, we must suspect that the impress is due to a murderous hand, and this suspicion will be strengthened, if the lungs are found distended with air, and containing blood, together with all the other signs of life having gone on after delivery. As to supposed death from the shortness of the umbilical cord, the physician cannot give an opinion on this point, if the cord is not submitted to his examination. In the cases the most favourable for forming an opinion, his decision must still be doubtful; for all that he knows concerning the relation of the funis to the axis of the pelvis, concerning the dimensions of the fœtus, the state of the funis itself, the probable insertion of the placenta in the uterus, and all that respects delivery, will not allow him to decide if the child has died from tension of the funis during labour, or from some other cause.

*Delivery by the Feet.*—Although delivery by the feet is frequently fatal to the child, medical jurists have taken but little pains to ascertain the effects of this kind of death. It is true that respiration in the vagina can very rarely take



place in such cases, yet its possibility cannot be altogether denied. In the case reported by Pyl, all the signs of this variety of delivery may be recognised, and the question appears to have been well answered. In the case quoted by Batner, the midwife had extracted the fœtus. In the report, the compression of the cord, and the probable tension of the spinal marrow, have been passed over. When no trace of violence can be discovered, we may conclude that the death of a new-born child arises from a footling delivery, if, in addition to the signs of death caused by compression of the funis, a swelling is observed in the genitals and scrotum of the male, or in the labia of a female. Additional information may also be acquired from the circumstances attending the delivery, and from an examination of the genital parts of the mother.—*Med. Quart. Rev. July, 1834, and Archives Générales.*

60. *Hydrate of the Tritoxide of Iron as an Antidote to Arsenic Acid.*—In our last No. p. 537, we noticed the annunciation of an antidote to arsenic, by Drs. Bunsen and Berthold, as also the researches made up to that time relative to the powers of the article. Since that period some additional facts have been collected, which seem to confirm the alleged powers of the antidote. The following fact was communicated to the Society of Practical Medicine of Paris, by Dr. Leger:—A child, eighteen months of age, having drunk a solution of the gray oxide of cobalt, (commonly called “fly-poison,”) was immediately seized with violent colic. Her mother, alarmed by the sufferings of the infant, called in an apothecary, who administered on the instant the hydrate of the tritoxide of iron, a pinch, in some sugar and water, every quarter of an hour. When the medicine was administered the first time, the little patient was lying stiff on the lap of her grandmother, complaining of violent pain in the belly. She had vomited twice. After the administration of the first dose she was less agitated; the remedy was repeated; and after the fifth dose the patient was much relieved; she fell asleep, and did not awake until the next morning. The pain had now completely disappeared, the infant was gay, and since the period spoken of has enjoyed perfect health.

*Fact 2.*—Dr. Bunsun, of Göttingen, has already made some experiments on dogs, which seem to prove that arsenious acid may be neutralized by the tritoxide; and he asserts that he has found in the excrement of animals submitted to the poison and its antidote, an insoluble arseniate of iron.

M. ORFILA communicated to the Royal Academy of Medicine, on the 4th of November, some experiments made on this subject by M. Lesueur, of the Faculty of Medicine. The experiments were performed on dogs, and in order to prevent the rejection of the poison by vomiting, the œsophagus was tied immediately after the administration of the arsenic and iron.

*Experiment 1.*—Nine grains of arsenic acid were given to a good-sized strong dog, and immediately after, three ounces two scruples of the hydro-tritoxide of iron. The œsophagus was then tied. The animal experienced no symptoms whatever of poisoning, and was alive when M. Orfila made the communication, seventy hours after the administration of the poison. It is right to remark that nine grains of white arsenic, or arsenic acid, generally destroys a dog in about five or six hours. The above-mentioned experiment was repeated on several dogs, and always gave similar results.

*Experiment 2.*—Nine grains of arsenic acid were given to another dog; and, in half an hour after, three ounces two scruples of the antidote. This animal soon died, with all the symptoms of poisoning.

M. Orfila observed, that the first experiment proved beyond doubt the efficacy of the tritoxide as an antidote to arsenic acid. The action of this poison has hitherto been combated with little success, because, as it is insoluble in water, its particles become concealed, and, as it were, incrustated, in the mucous cysts of the stomach; hence, but little advantage is obtained from the use of hydro-sulphuric acid, although it decomposes perfectly the arsenic acid. People who



poison themselves with arsenic generally take it in a solid state, and it is curious to observe how, in the present case, one solid decomposes another.

The second experiment in which the animal died by no means contradicts the first, for it is now well determined that arsenic poisons, not by the inflammation of the stomach which it causes, but by its action on the brain and heart after absorption; and the latter takes place so rapidly, that after half an hour the administration of the antidote is too late.

On the 9th of December, M. Orfila communicated to the Academy the experiments which he had made, in conjunction with M. Miguel and Nonat, on the same subject, and which furnished the following results:—

Twenty-four grains of arsenic were given to a dog: twenty minutes afterwards four scruples of the tritoxide of iron were administered in water; the animal, which had vomited before the administration of the counter poison, remained dull, but in two days was quite well.

On the same day, a small dog was given ten grains of arsenic, and, immediately after, the tritoxide; in the afternoon the animal was perfectly healthy.

The same experiment was repeated, with exactly similar results, on three other dogs. In all these cases, the antidote was given in a dose twelve times greater than the poison.

The œsophagus of a spaniel was now tied without any poison having been given; the dog died in seventy-eight hours.

Twelve grains of arsenic were given to another spaniel; the œsophagus was tied, and he died in two hours.

Nine grains were administered to a dog: the œsophagus was tied; death occurred in two and a half hours.

Twelve grains of arsenic were given to a small dog: the tritoxide immediately after, and the œsophagus was then tied. In two or three hours the external symptoms of poisoning had disappeared: in twenty-four hours the ligature was removed from the œsophagus, and the animal died on the sixth day.

The same experiment was repeated on two bitches; one died in seventy-two hours, the other in eighty-three. In order to ascertain in what period after the administration of the poison the antidote might be given with some hope of success, the following experiments were made.

Twelve grains of arsenic were given to a middle-sized dog; the iron two hours and a half after; the animal died in a quarter of an hour.

Eighteen grains were given to a large dog; the animal made several efforts at vomiting; at the expiration of an hour the ligature of the œsophagus was loosened, and the antidote administered: the dog lived ninety hours.

Eight grains of arsenic acid were given to a dog: the iron in an hour after; death in twenty-four hours.

Twelve grains of arsenic acid, mixed up with some fat, were administered to a spaniel bitch, together with the antidote: the animal died in thirty-eight hours. Some fragments of the poison were found in the animal's stomach.

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61. *Detection of Arsenic when mixed with Organic Substances.* By M. TAUFELIER.—The operations of legal chemistry are often directed to the detection of arsenic in organic substances; for instance, in the matters found in the digestive canal of persons supposed to have been poisoned. In this case it is essential, before having recourse to reagents, to destroy the organic substances mixed with the supposed poison. The various plans hitherto devised for this purpose, have been, to decompose these organic matters by fire, by acids, or by alkalies. These modes have given satisfactory results, but they present many difficulties.

I have succeeded in getting rid of these substances, by a simple method, which enables the operator to detect very small proportions of arsenious acid. The mucilaginous fluids, arising from a decoction of the contents of the stomach, are to be treated by a solution of oxide of zinc in potash; this oxide com-



bines with the organic matters, and forms an insoluble compound, which rapidly precipitates. The supernatant fluid is clear and limpid, and may be filtered or decanted; it contains arsenite of potash and an excess of oxide of zinc dissolved in potash. This liquid being acidified with hydro-chloric acid, hydrosulphuric acid is to be added, when a yellow colour will be developed; if there is the least trace of arsenious acid present. The zinc remains in solution. By boiling, the sulphuret of arsenic collects in yellow flakes, which having been collected and washed, are to be heated by the means proper to reduce it to a metallic state. By this method one-tenth of a grain of arsenious acid may be detected in half a pound of alimentary matters.\*

To reduce the sulphuret of arsenic, I make use of a very simple process, which will give evidence of arsenic in the most minute portion of the sulphuret. This consists of introducing the sulphuret into a glass tube of three inches in length, and closed at one of its extremities, and placing directly above the sulphuret a piece of leaf silver rolled into a ball. The closed extremity of the tube is to be heated by means of a spirit lamp. A decomposition immediately takes place, the sulphuret is volatilized and decomposed, the sulphur entering into combination with the silver, whilst the arsenic condenses in a metallic state in the form of a brilliant blackish gray ring, a little above the heated portion of the tube.

If, instead of reducing the sulphuret to a metallic state, it is wished to transform it into arsenious acid, instead of the leaf silver, the oxide of that metal is to be used. The decomposition takes place very rapidly at a somewhat elevated temperature, the arsenious acid which is produced condenses towards the upper part of the tube, in small, white, octahædral crystals, which may be readily detached. If the acid be in so small a quantity that it would be impossible to detach it, by reversing the tube, the sulphuret of silver, which has melted into a small solid mass, will fall out. Distilled water is then to be poured into the tube, and on the application of heat, the arsenious acid will be dissolved, when the solution can be tested by the proper reagents.—*American Journ. of Pharm. and Journ. de Pharm.*

## MEDICAL STATISTICS.

62. *On the Probable Duration of Life Among Medical Practitioners.* By Professor CASPER, of Berlin. There is no part of medical statistics more painfully interesting, and at the same time important, than that which relates to the probabilities of the duration of life. Inquiry on the subject, it is true, scarcely tends to lift the thick veil which conceals the limits of individual life, and has little power to satisfy the pardonable curiosity which we all have, to know how long we may have to live: yet, when applied to masses, it enables us to arrive at results of great consequence, whenever provision is to be made for the duration of life in general, or for the probable duration of it at certain epochs.

For upwards of ten years I have been engaged, during my leisure moments, in researches of this kind—the difficulties of which can only be compensated by the value attaching to each result. I have considered most of the circumstances which tend to modify the duration of human life, and those more particularly which are connected with the practice of the different professions. Much has been attempted within the last two hundred years on this subject by mathematical and statistical inquirers, yet much remains to be done; for, in fact, with the exception of Deparcieux's work on the mean duration of life among monastic persons of both sexes, we cannot be satisfied with any thing that has hitherto been accomplished.

\* The operation also succeeds by using a solution of sulphate of zinc, and then adding potash or sub-carbonate of soda in excess, instead of making use of the solution of oxide of zinc.



Although I should not feel justified in laying at present the whole of my work before the public, there is, notwithstanding, a portion of it with the correctness of which I am so well satisfied as not to hesitate in publishing it: the portion or fragment to which I allude, relates to the probabilities of the duration of life among medical men.

Establishments having a close connexion with civilization, such as life assurance companies, those for annuities to survivors, for mutual assurance, &c. have become numerous of late years; and the institution, set on foot by the illustrious Hufeland, for the benefit of members of the profession, may serve as a model of the kind. But none of these establishments, as the experienced can testify, and as lamentable events have too clearly shown, can possibly subsist for any lengthened period, unless founded on very exact tables of mortality. It was with this impression that the following tabular view was formed.

In order to obtain the most satisfactory points of comparison, I have noted down 624 cases of death, occurring among physicians and surgeons, mostly all Germans,—and excepting anatomists, veterinarians, naturalists, and medical men, who are solely devoted to literature.\* I have taken the age of twenty-three as my *point de départ*, both for the medical as well as the other professions, (a comparison of which it is my intention hereafter to make public;) but if others should choose twenty-four or twenty-five as the age from which we should begin to calculate, it in nowise interferes with the exactitude of the results.

My chief authorities in ascertaining the dates of the births and deaths of those on whom I reckoned, were Ersch, in his *Manual of Literature*, (Leipsic, 1822,) and Voigt, in his *Necrology*, (1833,) whose valuable collection is known to have been principally formed from manuscripts communicated by the friends and relatives of the deceased.

In column A. of the following table we have the ages at which our medical men died: B. contains the number of deaths at those ages.

Now we suppose the 624 individuals on whose deaths the table is constructed to have been contemporaries, or that they were all aged 23 at the same time. On this supposition the cypher 624 is placed in column C. opposite the age of 23; and as there are two deaths for that age, 622 is the cypher which must stand next in column C. corresponding with the age of 24 in column A. Thus the column C. is formed throughout, until the whole of the 624 are deceased, which is found to be at the 92d year. Column D. exhibits the number of years which may be allotted to each period—that is, the probable duration of life according to Halley's method.† I have preferred the form which Halley follows to that of Deparcieux, as being less complicated, at the same time that it leads to the same results. By Halley's method, we find the probable duration of life very readily: we look into the column C. to ascertain at what age only half those living at any given period survive. Thus, if of 122 medical men who are 72 years of age, we find that the half are dead at 77, it would seem that the chances of the 122 reaching that age, and of not reaching it, are equal; and the difference of the ages, (77—72)—nearly five years—is the length of time which those of 72 may hope to live.‡ Nothing positive, of course, can be predicated from the table respecting the probable duration of the life of any individual; but the general conclusions, as experience has proved, are nevertheless *extremely certain*.

\* I have since calculated the mean duration of the lives of seventy-six other medical men—thus making up the entire number 700; but I have not thought it necessary to enlarge my table by the addition of the results, which only serve to confirm those already obtained.

† Philosophical Transactions for 1691 and 1693.

‡ In general terms: if  $m$  be the number of persons who have attained the age  $a$ , and that at the age  $n$  the number is found to be reduced to  $\frac{1}{2} m$ ,  $n$  will express the probability of vital duration, and  $n-a$  the number of years on which the individuals  $m$  may calculate.



*Table of the Mortality of Medical Men.*

A. Age.	B. Deaths.	C. Living.	D. Probable Life.	A. Age.	B. Deaths.	C. Living.	D. Probable Life.
Years.				Years.			
23	2	624	35, 5	58	10	317	11, 0
24	1	622	34, 4	59	17	307	10, 6
25	4	621	35, 4	60	12	290	10, 3
26	3	617	33, 0	61	15	278	9, 7
27	7	614	32, 0	62	14	263	9, 0
28	5	607	31, 4	63	19	249	8, 8
29	5	602	30, 1	64	20	230	8, 5
30	5	597	29, 8	65	11	210	8, 0
31	11	592	28, 6	66	18	199	7, 5
32	8	581	28, 0	67	6	181	7, 2
33	11	573	27, 6	68	16	175	6, 5
34	11	562	26, 8	69	9	159	6, 0
35	8	551	26, 0	70	17	150	5, 5
36	7	543	25, 5	71	11	133	5, 4
37	8	536	24, 7	72	15	122	5, 0
38	14	528	24, 0	73	14	107	5, 0
39	8	514	23, 5	74	13	93	4, 7
40	9	506	22, 7	75	10	80	4, 6
41	11	497	22, 0	76	9	70	4, 4
42	6	486	21, 3	77	8	61	3, 9
43	8	480	20, 3	78	10	53	3, 3
44	8	472	19, 7	79	4	43	3, 0
45	11	464	19, 0	80	11	39	3, 0
46	4	453	18, 2	81	6	28	4, 0
47	14	449	17, 3	82	3	22	4, 0
48	11	435	16, 7	83	3	19	4, 0
49	12	424	16, 0	84	2	16	4, 0
50	13	412	15, 4	85	3	14	4, 0
51	8	399	15, 0	86	2	11	3, 5
52	11	391	14, 2	87	—	9	2, 6
53	10	380	13, 5	88	2	9	2, 0
54	18	370	12, 8	89	4	7	1, 5
55	14	352	12, 6	90	1	3	0, 5
56	13	338	12, 4	91	2	2	0, 0
57	8	325	11, 9	92	—	0	—

From this table we gather the sad certainty of the short career of those who practise the medical art. Supposing the ordinary duration of human life to be 70 years, we see that scarcely a fourth part of our medical brethren attain that age; and hardly one in 15 reaches the age of 80. Or again: if in youth the resolution be taken to devote oneself actively to the laborious pursuits of medical science and practice, in order to enjoy in old age the fruits of a life of exertion, it is a melancholy fact, that one-half the number of practitioners is cut off before that period: so that the remarks of Jean Paul are peculiarly applicable to our case. "The life of man," says this author, "has often been compared to that of travellers or pilgrims: it seems to me rather to resemble that of an innkeeper, who is ever busy about his guests, receiving them, and seeing them depart; and who, on the occurrence of every interval of unprofitable repose, longs for a fresh bustle, desirous of more work when at rest, and of rest when at work; always hoping for the time to come when quiet and ease will suffer him to en-



joy his arm-chair in tranquillity; but, in general, before that time arrives, he is gathered to his eternal rest."

There are a few points of comparison between the mortality in the medical and that in other professions, which I cannot willingly omit to notice. Divines, (*les théologiens*,) among all the professions, are those who seem to stand the best chance of long life; and if *they* die off more slowly, or enjoy more longevity than the other, it is just the reverse with medical practitioners. The following summary will show the difference:—

AGES.								DEATHS.		
								Physicians.		Divines.
23 to 32	-	-	-	-	-	-	-	82	-	43
33 42	-	-	-	-	-	-	-	149	-	58
43 52	-	-	-	-	-	-	-	160	-	64
53 62	-	-	-	-	-	-	-	210	-	182
63 72	-	-	-	-	-	-	-	228	-	328
73 82	-	-	-	-	-	-	-	141	-	255
83 92	-	-	-	-	-	-	-	30	-	70
								1000		1000

And the following list may serve to show how much shorter the probable length of life is among medical men than among others. Taking 100 individuals in each calling, the number who attained the age of 70 have been, among

Divines	-	-	-	-	-	-	-	-	42
Agriculturists and foresters	-	-	-	-	-	-	-	-	40
<i>Employés</i> in high offices	-	-	-	-	-	-	-	-	35
Mercantile persons and traders	-	-	-	-	-	-	-	-	35
Military men	-	-	-	-	-	-	-	-	32
<i>Employés</i> in lower departments	-	-	-	-	-	-	-	-	32
Advocates	-	-	-	-	-	-	-	-	29
Artists	-	-	-	-	-	-	-	-	28
Teachers, Professors	-	-	-	-	-	-	-	-	27
Medical practitioners	-	-	-	-	-	-	-	-	24

But what are the causes to which we must attribute this low place in the scale of vitality held by our profession? It would be needless to enumerate them to those who are familiar with the extent of labour which the practice of medicine entails. There is, perhaps, no profession which requires more moral and physical exertion than ours, which allows less of repose, or of that tranquillity which is so conducive both to internal and external life. There is none which exposes the members of it to such bodily fatigue, such mischief from bad weather—such disturbance of the night's rest,—so much watching, irregularity of meals, disorders of the digestive organs, and mental affections of all kinds: in a word, to such dangerous influences, perpetually recurring, and all tending to sap the vital powers. If we add to this, that there are far more practitioners cut off by contagion than are commonly supposed, we shall easily see the groundlessness of the satirical observation, that *sybaritism* is the rock on which medical men are wrecked. It may be mentioned, that in the table given above, the great majority of those who are the subject of it were country practitioners, whom to accuse of luxurious living were too bitter a satire,—one, indeed, wholly undeserved by a profession, which has such strong claims to public gratitude, since those who practise it abridge at least, if they do not absolutely sacrifice, their existence, in endeavouring to prolong that of others.—*Med. Gaz. from Berliner Medicinische Zeitung, and Annales d'Hygiene.*

63. *Austrian Statistics.*—In the year 1833, the number of deaths in the Austrian monarchy was 665,731, being 76,917 fewer than in the proceeding year;



the deaths from cholera, however, in the latter year, may account for the difference. The number of births was 815,293. Among the deaths were by suicide, 724; hydrophobia, 35; casualties, 503; murdered, 422, (in the preceding year, 466;) executed, 36, (in the preceding year, 53.) There were 450 persons who were above one hundred years of age. The population of Austria, including Lombardy, Venice, Dalmatia, the Tyrol, &c. is at present reckoned at about 34,000,000.—*Lond. Med. Gaz. Jan. 1835.*

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#### MISCELLANEOUS.

64. *Abolishment of sanatory cordons in Spain.*—A royal order was published in the Madrid Gazette of the 26th August, 1834, announcing the inefficiency of sanatory cordons as a measure of prevention against the cholera; and acknowledging that they were established out of respect for popular prejudice, but the consequences have been disastrous, and the people exposed, by a doubtful remedy to all the evils of want and misery. Sanatory cordons are accordingly abolished.

Thus in Spain as previously in Russia, Prussia, Austria, and indeed every where else, these sanatory cordons have been productive solely of mischief.

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65. *Method of teaching Anatomy.*—It is impossible for any who are conversant with the method of teaching now practised in the *best* metropolitan schools, to avoid perceiving the great alteration which that method has experienced in the last few years. Mr. Abernethy, we believe, was the first to adopt a slip-slop mode of lecturing, in which minute and rigid demonstration was sacrificed, and a very superficial description of anatomy was patched and garnished with trimmings of physiology, pathology, and therapeutics. The lecturers of the Abernethian school resembled very closely that liberal cook, who offered for three-pence a dinner consisting of “roast and boiled.” He kept his word; but, when the covers were removed, potatoes were the only dish.

The abandonment of minute anatomy, and the association of pathology and surgery along with it, offered a short cut and an easy path to the deluded student. The lecture-room and manual were occupied alike with this very promising and very profitless species of instruction. Much was said, but little taught; and if the student had not the fortune to be made a jack of all trades, he certainly was not a master of anatomy.

The publication of the work of M. Cloquet, and its speedy appearance in an English form, effected a rapid, if not total overthrow of the system of lecturing to which we have adverted. Exactness of description and precision of information took the place of the vague generalities of that system, and the retail rubbish of pathology and surgery were excluded from the anatomical theatre.

We do not affirm that the superficial lecturers are entirely defunct, or that some do not still neglect their proper business—the teaching of anatomy, for the purpose of foisting their cheap and nasty specimens of pathology and surgery upon their pupils. Yet such lecturers are not popular; they are shunned as idle praters or absolute impostors, and the race of *fainéants* must quickly disappear. Peace to their manes! They belong as certainly to a former age, as if they had been born two centuries ago.—*Med. Chirurg. Rev. Jan. 1835.*



## AMERICAN INTELLIGENCE.

*Cæsarean Operation.*—We learn with pleasure from Dr. Joseph G. Nancrede, of this city, that the patient under his care, upon whom Professor GIBSON performed, on the 25th of March last, the Cæsarean section, continues, up to this day, the twenty-sixth since the operation, to improve daily. The wound has closed entirely in about two-thirds of its extent, the remaining third presenting yet a granulating surface, which every day diminishes in size. The mother sits up in bed, and in a day or two will be enabled to leave it. Her babe, which is a fine and healthy one, she nurses entirely herself. Dr. Nancrede promises for our next No. a detailed account of this very interesting case.

P. S. Since the preceding was in type, we have, by the polite invitation of Professor Gibson, visited with him and examined this patient. She came down stairs to receive us, and except a little weakness, was in the enjoyment of her ordinary health. The wound has cicatrized, and she states, has been so for some days. The child has every appearance of perfect health. It is now thirty-nine days since the performance of the operation, which must be considered as entirely successful.

*Case of Enlargement and Hypertrophy of the Ileum.* By MASON L. WEEMS, M. D. of Washington City.—The subject of this case was a child, (son of Mr. Maxwell, of this city,) between six and seven years of age, of a light and ruddy complexion, and possessing all the marks of a strongly developed, sanguine temperament.

His parents stated, that he had always been uncommonly healthy, with the exception of occasional attacks of slight cholera morbus; within the last four or five months those attacks had been more frequent, and, within the same time, he had occasionally complained of pain in the abdomen, which would speedily pass off or be relieved by friction with the hand. As he had several other symptoms of worms, such as picking at the nose, grinding his teeth, and starting in his sleep, they gave him a mild vermifuge, which expelled two or three worms, but made no alteration in the symptoms. Yet as he appeared perfectly well in other respects, and continued as active and playful as ever, they felt no uneasiness about him.

About the last of April, 1834, his mother accidentally discovered a tumour in his abdomen; at which, being alarmed, she immediately sent for me. I found the child in apparent health; he denied having any pain at the time; his pulse was natural, or but little accelerated; skin natural, urinary organs undisturbed; tongue clean and moist, and his appetite and digestion good. His bowels were a little inclined to costiveness, and there was this peculiarity, (which continued throughout the disease,) that a moderate dose of any cathartic would operate well, though it required more time than usual to produce its effects.

On examining the abdomen, I discovered a tumour, the base of which rested on the rim of the pelvis, from the superior spinous process of the right to the inferior spinous process of the left ilium. A straight line, connecting those points, corresponded with the superior edge of the tumour, as ascertained by



slight pressure; but by firmer pressure above the line, it was evident that it extended much higher, sloping upward and backward to the spine, against which the whole tumour appeared to rest. It therefore occupied the whole of the right and a part of the left iliac regions, the entire hypogastric, and a part of the umbilical and right lumbar regions. The tumour was firm, almost immoveable, and free from pulsation; and, if the child's assertion could be relied on, free from pain on pressure; but this is doubtful, as moderate pressure would often awake him with an expression of uneasiness. Conceiving the tumour to be composed of folds of the intestines, united by adhesive peritoneal inflammation, (several cases of which are recorded by Morgagni,) I applied the stethoscope, but no sound could be heard, though, at the same time, pressure was made on different parts of the abdomen. The instrument, however, was not again used. That it was not composed of large mesenteric glands I inferred from its position; the absence of emaciation and every other sign of scrofula, and from the fact that that disease had never appeared in the family of either parent, as far back as could be known. Soon after seeing this case, I called in the assistance of Dr. Hall, Professor of Surgery in the Columbian College, and afterwards of Dr. Lovell, Surgeon General of the Army, the former of whom frequently visited the patient with me. Many other physicians were invited, and occasionally called to witness this novel case. The treatment, consisting of alteratives and palliatives, it is unnecessary to detail, as it exercised no influence on the disease, which was far beyond the reach of medicine when first discovered. The tumour continued slowly to increase, until it occupied the abdomen as high as the umbilicus, but without any change except the appearance of several small and moveable tumours in its vicinity, until within two weeks of the child's death, when it lost much of its firmness, and crepitation under the fingers became evident. At the time this change took place, the child was labouring under an attack of dysentery, which appeared accidental, and yielded in two or three days to the usual treatment.

As the tumour increased the general health of the child declined. His pulse increased in frequency, and continued at about 100 strokes per minute; his strength and flesh failed, though his appetite continued good. Several symptoms, caused by pressure of the tumour, appeared, as frequent passing of the urine, in small quantities, but without uneasiness; pain in the legs, back, and lower part of the abdomen, &c. The disease soon became complicated with ascites, which, after advancing to a moderate degree, remained stationary, until about two days before death, when it rapidly decreased, and, at the same time, frequent and tolerably copious discharges of water came on, and continued until death. These discharges were supposed, at the time, to be from the bladder; but I think it will be proved they were from a different source. On the 5th of August, (more than three months after the discovery of the disease,) the child expired, slightly convulsed.

The autopsy was performed five hours after death by Dr. Hall and myself, in presence of four or five other members of the profession. Externally, there was no appearance whatever of disease, except the prominence of the abdomen and moderate emaciation. Before proceeding with the examination, several pints of water were drawn off by the trochar, which was carefully introduced at a point remote from the tumour. On opening the abdomen we beheld a state of morbid alteration, to which, I believe, there is no parallel on record. The ilium, for several feet in length, was enlarged in many places into hollow tumours or sacks of an oval form, and varying from three to five inches in diameter. These tumours were connected together by short sections of the bowel, near the natural state as to size. On the most prominent part of the largest tumour, there was a gangrenous spot, in the centre of which was an opening into its cavity. Through this hole, I have no doubt, the water in the cavity of the peritoneum passed into the intestine, and formed the discharges mentioned above. To this there was no obstacle, as the bowel, where it formed the tumours, could not collapse. On cutting into the tumours, we found they



were formed not only by an increase of the caliber of the bowel at those points, but also by an enormous thickening of its parietes, which were generally half an inch, in some places more, in thickness. The colour of the diseased portion was pearl white, except on the mucous surface, where a few pink-coloured blotches were observable. The texture was materially altered, being fully as friable as the esculent part of a stale cocoa-nut, and its fractured surface was strikingly similar to that of the nut, having the same fibrous or striated appearance. The intestine was at no point contracted, nor was its mucous surface ulcerated. The mesentery was fully half an inch thick. It presented a regular and even surface; its glands being but moderately enlarged. The peritoneum, on the anterior wall of the abdomen, regularly increased in thickness as it descended from the umbilicus, until it reached the pubis, where it was fully three-fourths of an inch thick. The bladder was firmly contracted, and could not, on account of the pressure, have contained more than one or two ounces at a time. The remainder of the ilium, the ileo-colic valve and colon, the stomach, and, in short, every other organ in the abdomen, which was the only cavity examined, were perfectly healthy. No worms were discovered.

The disease cannot be distinctly traced to an exciting cause. About five or six months before its discovery the child complained of having received a hurt in the abdomen, by falling on a stone; but as he soon ceased to complain, the circumstance was almost forgotten. A few weeks, however, after this, he commenced complaining of occasional pain in the abdomen, and those complaints, as has been stated, continued until the tumour was discovered, and only ceased with his life. The relation, however, between this accident and the tumour, as cause and effect, is rather obscure and remote. It is, however, more than probable, that the disease existed several months before the discovery of the tumour, as it was afterwards upwards of three months in completing its course. The most remarkable feature in this case was the undisturbed state of the general health of the child, even for several weeks after the appearance of so large a tumour in the abdomen. This was a matter of surprise to all who, at that time, saw the case. The fact of the existence, in this case, of several of the strongest symptoms of intestinal worms, is also worthy of notice, as it confirms a principle or fact which should be familiar to all.

I have now in my possession a preparation of the largest tumour, with a portion of the mesentery to which it is attached, which I will send in a few days to the anatomical museum of my Alma Mater, the University of Pennsylvania, that it may be more generally seen. Dr. Hall has also a preparation of one of the tumours.

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*Case of Discharge of Blood from the Bowels of a New-born Infant.* By C. R. GILMAN, M. D. of New York.—Mrs. H. aged thirty-four, was taken in labour with her second child, December 24th, 1834, 7 P. M. about a month sooner than she had expected. I saw her at 9 o'clock, P. M. pains trifling; at 12 the waters broke, they were sanguineous in colour, so as to stain the clothes of a decided red; labour otherwise natural; child born at 3 A. M. It was small, though perhaps not much smaller than the period after conception would account for. It cried immediately, though not very strongly. On tying the cord, found it very small, not larger than a large quill, and not at all convoluted. I separated the child, and delivered it to the attending nurse. In a few moments I traced the cord up the vagina, and found the placenta in the upper part of the canal, in reach of the finger. On making very slight extension of the cord, I felt it giving way under my fingers, but the extension was so gradual that it did not break. By the finger hooked behind the placenta, I delivered it without difficulty. On more carefully examining the cord, I could break it by very slight effort; it was very small, as before mentioned, and spotted with greenish-yellow spots, the size of a small pea. There was a slight cleft in the placenta; no hæmorrhage or other unpleasant symptom. My attention was now called to the child, by the nurse, who said it was dying. I found it breathing with very great difficulty, and very irregularly. The abdomen was very tumid; on making



moderate pressure on it the breathing was more difficult, and bloody froth issued from the mouth; I ordered fomentations to the chest and belly, which very soon excited the action of the bowels, and produced a large discharge of meconium, with evident relief. In half an hour, the breathing still very bad, I ordered a suppository of soap; this produced a large evacuation. On examining the diaper I found the discharge consisted of a great part clotted blood, mixed with meconium. The child was much relieved. Three evacuations of the same character followed, the tumid belly subsided, and the child was perfectly relieved.

The quantity of blood discharged from the bowels was certainly not less than four to six ounces; I think more. Yet the surface was never cold nor palid, nor had the infant any unpleasant symptom, not clearly referable to the distended state of the stomach, and the impediment thereby offered to the free action of the lungs. My friend, Dr. Gilbert Smith, saw the case in the morning, and satisfied himself of the nature of the discharges.

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*Case of Monstrosity.* By ARISTIDE RODERIQUE, M. D.—Mrs. D. aged about thirty-five, in the fifth month of her pregnancy, was attacked with inflammatory rheumatism, to which she is very subject. It commenced in her jaws, and from thence would pass alternately to different parts of her body, the transition being sudden. After general and local bleeding, &c. it finally attacked the uterus with such violence, and there continued seated so long, notwithstanding all the remedies employed, that I expected abortion to take place at every moment; the uterus remained contracted firmly upon the foetus and low down in the pelvis for several days; at length the pains ceased, but the uterus continued contracted for about two weeks after, and never attained the size it usually did with her other former pregnancies. At the end of four months she was delivered of a *full grown* male child, deformed by club feet and hands, the lower maxillary bone forced to the right side, and the cervical vertebra forming an angular projection to the left side; it appeared permanently deformed, as the foetus lies in utero; it breathed with difficulty, and could not suck; every attempt to give it any fluids choked it, until, by convulsive gasps, the drink was rejected; there was no deformity of either tongue or frenum, from its birth to its death, which took place in forty-eight hours. It had convulsions at short intervals. There was very little liquor amnii; not one-fourth as much as in her previous confinement, at which I attended, and she tells me she always had a great deal. There is not the slightest deformity in any of the other children, or those of any member of her family. Permission was refused to examine the child.

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*Anatomical Structure of a Bifurcated Umbilical Cord in a Case of Twins.* By WILLIAM S. REYNOLDS, M. D.—On the morning of the 13th of October last, Mrs. R—— was taken in labour with twins. One of the children was delivered by the midwife in attendance, and difficulty being experienced with the second, my services were requested. Upon examining, I found that it was a presentation of the right arm and shoulder; I proceeded immediately to turn and deliver by the feet, which was soon accomplished. The placenta, (there was but one,) was expelled soon after, and presented the following rather unusual circumstance. Instead of two cords originating from the placenta, there was but one, which continued about five inches in length, and then branched off into two, each branch going to one of the children.

I wished to ascertain whether the cord arising from the placenta was merely a union of the fleshy portions of two cords, or whether there was an anatomical difference in the branches and this main trunk.

I first cut across the main trunk close to the placenta, and found that there was but one artery and one vein. The artery considerably larger than the vein. I next examined each of the branches where they had been separated near the umbilici of the children. They had each two arteries and one vein. I then dissected the arteries and veins at the bifurcation, and found that the



artery was separated into two branches, about three-fourths of an inch above the bifurcation of the cord, and that near this last situation each of these branches again bifurcated. The vein divided into two branches about an inch and a quarter above the bifurcation of the cord.\*

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*Case of Retention of Urine Cured by a Solution of Muriate of Ammonia.* By ALEXANDER SOMERVAIL, M. D. of Virginia.—Betsey Grymes, (a free negro,) was very sick two weeks ago, suffering much pain, for which I gave her twenty drops of a solution of sulphate of morphine, (my usual dose is seventeen drops.) Next morning she was better; it was repeated in the evening, and a drop more may have been given. In the morning the pain was gone; but she could not evacuate one drop of urine. I sent her a solution of muriate of ammonia, (sal ammoniac,) five grains; a dose every hour. In the evening she had only taken two doses, (as she did not get it time enough to take more,) and had evacuated some spoonfuls, from which she was relieved. Next morning free evacuation had been made after she had taken three more doses, five in all; not a drop before taking the muriate.

I have frequently experienced more or less difficulty in evacuating urine after opium.

November 24th, 1834.

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*Dr. Smart's Case of Inverted Uterus.*—Dr. SMART writes to us that the subject of the case of inverted uterus, an account of which is given in the preceding part of this No. (p. 81,) “is the mother of a second child, which is now nine days old. Nothing uncommon occurred in her second parturition, excepting an adherent placenta, which was removed without any serious difficulty. The adhesion appeared to be more from inefficient contractility of the uterus than any organic change in the placenta or the connecting medium.

“Three doses of the decoction of ergot had been exhibited immediately preceding delivery, for the purpose of promoting the contraction of the uterus, subsequent to the birth of the fœtus. The manipulations in separating the placenta, produced a moderate, but not strong, contraction of the uterus. No flooding, as in her former delivery, followed the removal of the placenta.

“She has no milk yet, neither had she after her first accouchment. To-day is the tenth day, and she eats and sleeps well; sits up a part of the day and feels, as she says, ‘well enough to go to work.’”

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*Accumulation of Fluid between the Cranium and Scalp.* By ROBERT LEBBY, M. D.—On the 11th of May, 1834, I was requested to visit a small coloured boy, aged about seven years, the property of Mr. P. of James' island. On seeing the boy, I was forcibly struck with the unusual size and appearance of his head, with his face swollen. On examination, I discovered that there was a quantity of fluid between the scalp and the skull—the former very tumid and yielding. He complained of no pain whatever about the head, and his general health was in other respects good, and his appetite unusually so. He was lively and playful, associating with the rest of the children about the plantation, and with the exception of the unusual size of the head, no person would have supposed him at all indisposed. I directed a powder of calomel, jalap, and nit. pot. to be given him that day. It operated very well, and the next day put him upon the use of digitalis and nit. æther, with a grain of blue pill at night, as an alterative. This course was pursued for a week, without the slightest benefit. The size of the head gradually increasing, a blister was applied to the back of the neck, and dressed with savin oint. with no better success; the head continuing to increase in size until the 24th of May, when it attained the

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\* This article having been simultaneously communicated to another journal, in which it has already appeared, we have not thought it necessary to give the diagram which accompanied it.



size of twenty-five inches in circumference. I then determined on puncturing the scalp, and drawing off the fluid. I ordered the boy to be brought to Fort Johnson the next morning; and in the presence of my friend, Dr. Thomas Logan, I introduced a trocar over the left ear a little posteriorly, and succeeded in drawing off eight ozs. by measurement, of a watery fluid slightly tinged with blood. The patient complained of no pain from the operation. The scalp was left lying loosely over the skull, except a little on the back of the head. The whole head was covered with a cap and a bandage drawn moderately tight over it, with the object of keeping up, as far as possible, an equable degree of pressure over the whole head. The digitalis was resumed with a grain of blue pill at night; and to my great gratification the boy continued to improve daily. The fluid did not re-collect, and at the expiration of four weeks, I discharged my patient cured. I would observe, that this child the fall previous had had a severe attack of fever, connected with worms. During the illness, eighty-five worms passed away from him.

After the operation he continued to improve, and had no return whatever of the disease. His head resumed its natural appearance, and his health continued good throughout the summer. Unfortunately, however, he was attacked with bilious remittent fever late in the fall, during which attack he had several convulsions, which were no doubt occasioned by the irritation of worms—as a few were expelled, and a considerable number came off after death had ensued. I have been somewhat at a loss under what head to class this disease, as it could not be literally called hydrocephalus, the term having reference only to water within the cavity of the cranium. Some writers of repute doubt whether such a disease as hydrocephalus ever occurs; and Dr. Good is of opinion that if it does, it ought to be regarded as a variety of anasarca or cellular dropsy, rather than hydrocephalus, or dropsy of the head so called. That the disease does occur, (although I believe the instances are rare,) is beyond a doubt—and it is of very little importance whether it be called hydrocephalus or cellular dropsy.—*North American Archives, February, 1835.*

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*Treatment of Burns with Yellow Wash, (Aqua Phagædenica.)*—Dr. HINTZE, in a paper in our esteemed Baltimore cotemporary, extols the powers of the yellow wash in the cure of burns. The following is the mode in which he uses it:—When called to a case of recent burn, I remove all the vesicles with scissors. I then apply the yellow wash with a soft feather, or a camel's hair pencil, over the whole surface, and dust the part with finely powdered Turkey rhubarb. Over this I apply soft patent lint cut into small slips to accommodate them to the part. This is the only local treatment necessary, and if there should be any indication for constitutional remedies, the means proper in such cases must be employed. Should additional vesicles make their appearance, they must be promptly removed, as the accumulation and detention of an undue quantity of fluid within them, tends to retard the healing process. Where the lint adheres, it should not be disturbed, but any pieces which may become loose may be separated with forceps or scissors. The part should again be wet with the wash, dusted with the powder as before, and covered with fresh lint. The adherent lint should also be moistened with the wash. This process should be repeated at least once or twice a day. Should a sense of tension, with more or less thickening, invade the part, which generally indicate the incipient separation of a slough, this process should be promoted by emollient poultices, composed of boiled starch, slippery elm, or bread and milk. As soon as the slough has separated, the former remedies are to be renewed. All ablutions with soap and water, &c. are inadmissible, as all oily and fatty applications tend to destroy granulations in their forming stage. If the purulent secretion should be too profuse, it may be gently removed with dry lint or soft old linen.

The wash which I employ in recent cases, is composed of one grain of corrosive sublimate to an ounce of lime water. In chronic ulcers, I use it of the strength of one and a fourth grains to the ounce.



*Apoplexy from excessive Repletion of the Stomach—Sudden Death—Large Extravasation in the Vicinity of the Fissure of Sylvius.*—This interesting case is related by Professor GEDDINGS, in the No. for November last of our cotemporary, the *North American Archives*. A coloured woman, aged about fifty, somewhat corpulent, and the mother of several children, after a hearty meal of animal food, peas and rice, tumbled down in a state of insensibility, and immediately expired. I was requested by a medical friend, who had been called to see the case, to make a post mortem examination. As soon as the cranium was opened, a considerable collection of blood was discovered about the base of the brain, much of which was still in a fluid condition. When the organ was removed from its cavity, a large coagulum was found occupying the fissure of Sylvius, and extending for some distance into the corpus striatum. There was likewise considerable extravasation within the corresponding lateral ventricle. The arteries of the brain were rigid, much dilated, and studded over with numerous points of ossification. The extravasation had taken place in consequence of a rupture of their tunics.

We next proceeded to examine the stomach; and here we had fully revealed the source of the mischief inflicted upon the brain. This organ was impacted with peas, rice, homminy, and other articles of the individual's repast, to a degree to which it would scarcely be possible to believe could be borne without extreme suffering, and an extensive embarrassment of the functions of the whole of the associated organs. Its condition was such as to encroach upon the intestines, compress the aorta, and the vessels given off by it in the epigastric region, press upon the plexus of nerves behind the stomach, and finally force up the diaphragm upon the lungs, so as to interrupt their play, and thus embarrass the function of respiration, thereby interrupting the passage of the blood through them, and consequently impeding its return from the head. Being thus confined on the one hand to the vessels of the brain, by these causes, and driven upon it, on the other, by the pressure sustained by the aorta, which prevented the distribution of the usual quantity of blood to the lower part of the body, it is not to be wondered, when the fragile state of the tunics of the cerebral arteries is considered, that they should have been unable to sustain the onus suddenly thrown upon them, and that they gave way under its influence.

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*Dissection of a Uterus at the Sixth Month of Impregnation.* By J. B. S. JACKSON.—The uterus was somewhat between the oval and pyriform shape, measuring nine and a half inches in its long axis and six inches transversely at the broadest part. The posterior parietes were much more developed than the anterior, as shown by the situation of the Fallopian tubes when viewed laterally. The organ was generally of a light red colour, soft to the feel, and fluctuating from the liquor amnii it contained; the different parts of the fœtus could be easily made out.

The os tinæ measured one and a half inches in width, inclusive; the two lips were of an equal length, extremely soft, of a red colour, and having a rough, abraded appearance on the opposing surfaces; entrance closed by a very viscid mucus, appearing a little milky at first, but after lying in water a day or two, becoming perfectly transparent.

The Fallopian tubes made a sharp angle with the body of the organ; the fimbriated extremity of the right was free, and the ovary, which lay at some distance from it, presented no unusual appearance. The other tube adhered firmly at one point by its fimbriated extremity to the corresponding ovary, from which, as appeared on dissection, the vivified ovum had been derived. This was shown on the external surface by a very decided projection, soft to the feel, and of a red colour; on one side of it was a slight depression, such as belongs to the organ in its natural state, but nothing like the well marked cicatrix, which we are told is found in such a situation. On making an incision through this part, a well defined body presented itself, of an irregularly oval



form, seven lines in length by three in breadth; it had a uniformly firm consistence and structure, and was of a red colour, though apparently it was not vascular, as no vessel was seen in its substance, and after a maceration of twenty-four hours it appeared of a dull yellow colour; from which circumstance there could be no doubt that it was a true corpus luteum.

On dissection, the uterus was found to be, on an average, three lines in thickness, becoming, however, greater where the placenta was attached, whilst towards the cervix it was less than two. To the feel it was as soft as the most flaccid muscle. The muscular fibres were sufficiently distinct, though less so than at the full term; no attempt however was made to trace them.

Large veins entered on each side of the organ by two distinct sources, one just above the cervix, and the other near the Fallopian tubes. These were seen in several instances to communicate freely by large oval-shaped openings, as they passed one under the other. They were every where numerous, but particularly at the insertion of the placenta, where they seemed mainly to constitute the parietes of the organ, making it very extensive, and giving the appearance almost of a coarse, erectile tissue; though in a collapsed state, it was evident, that when distended with blood, the parietes would have been vastly thicker than now. A careful examination was made where the ovum was laid open, with reference to Mr. Robert Lee's opinions of this part of the subject, and in several instances it appeared sufficiently evident that on that part of the inner surface of the uterus which corresponded to the placenta, the uterine veins, and those too of a large size, did terminate in open, well-defined extremities, as he supposed; from the oblique direction in which they ran, these extremities generally presented either an oval or a semicircular appearance. They were, moreover, accurately closed by the decidua which lay over them; and the separation being as easily effected at these points as elsewhere, I think we may safely infer, so far as this examination goes, that no free communication exists between the uterine vessels and those of the ovum. The same point may be illustrated on any placenta after a natural labour, in which, however carefully we may examine the uterine surface, we shall not find the ruptured opening of a vessel of any considerable size, the circular sinus of which we used to hear so much formerly, being now well understood, and very differently explained.

It is very much to be regretted that any attempt was made to inject the vessels in this case, as in consequence of extravasation into the substance of the placenta, the whole was greatly confused.

As to the uterine veins not corresponding to the placental surface, there was much uncertainty. On dissecting from without inwards, they seemed in a few cases to terminate like those already described, in open, well-defined extremities, only that they were much smaller, being about the size of a crow-quill. The appearance, however, was probably deceptive, as the inner surface of the uterus, from its softness and close connexion with the decidua, was constantly liable to be raised up, and confounded with that membrane. Indeed, it is so difficult, if not impossible to avoid it, by this mode of dissection, that, judging from their descriptions, I believe it often has been done by distinguished anatomists, and has led them into false views of the structure of the part. But by dissection from within outwards, the chorion and amnion being removed, the decidua was raised extensively, and was even scraped from the inner surface of the uterus, and it could be done with great ease, and yet this last presented no appearance of the open extremities of vessels.

The decidua, which was next examined, has been the subject of great dispute as to the question of its organization, its mode of connexion with the uterus, whether it envelopes the whole ovum, or stops at the edge of the placenta, and various other points. In this case it appeared as a light-coloured, semi-transparent, very soft, imperfectly organized membrane, on an average not more than half a line in thickness, and divisible into several layers very loosely connected, three or four at least being raised over an extensive surface,



in one or two places. Its connexion with the uterus could be very easily separated by means of a small blunt instrument. There were, however, numerous attachments by means of delicate filaments; several of these appeared to be hollow, and may have been vessels, for notwithstanding what M. Velpeau may say of the unorganized character of this membrane, and its want of vascularity, it was evident in this case, that there were vessels of very appreciable size, filled with red blood, and seen as distinctly as if they had been injected. The distinguished author just quoted, speaks of this appearance as having been described, but thinks it is deceptive,—that it is nothing more than what we see on the adherent surface of the false membrane in croup, and he might have added the recent lymph on an inflamed serous membrane. Its connexion with the chorion was close, though easily separated. Around the edge of the placenta, which lay in the upper posterior part of the body of the uterus, towards the left side, the decidua formed a distinct, thick ridge; here, and for some distance around, it had some appearance of an opaque, dull, yellow colour, and more of an unorganized appearance than was found in any other part. With the fœtal surface of the placenta, it had nothing to do, stopping abruptly at the edge; but over the uterine face it did extend, or else a membrane very much like it had been formed there, independently, which afterwards became attached to the decidua, and between which the limits cannot now be traced. That this membrane is a continuation, and properly a part of the decidua, is the opinion of Mr. Lee; that it is formed secondarily, there being no trace of it until after the twelfth week, is maintained by Velpeau. A point much disputed is, whether the decidua is continued over the Fallopian tubes and cervix uteri, so as to form a shut cavity. It is extremely difficult to decide, as to the first, on account of the minuteness of their openings; I can only say, that on examining that part of the membrane which corresponds to one of them, I could find nothing to the contrary;—as to the cavity of the cervix, it was clear beyond all question, that it was not closed by the decidua, as Velpeau would have it that it always is, but, as the Hunters taught, by a great abundance of perfectly transparent mucus, being extremely viscid in the centre, but towards the uterine cavity into which it projected, becoming thinner, and resembling the vitreous humour of the eye. The decidua itself stopped at about the commencement of the cervix, or rather became incorporated there with the inner surface, there being no distinct line of demarcation. And here it may be said of the cervix, that its length was thirteen lines, the thickness of its parietes from three to five; that it was much softer than in the unimpregnated state, and that the arbor vitæ could be distinctly seen on the posterior wall through the transparent mucus.

The chorion was exceedingly thin, firm, and quite transparent, adhering externally to the decidua. Between it and the amnion was every where found the substance described by Velpeau, as the allantoïd membrane, and so aptly compared by him to the vitreous humour of the eye.

The delicacy of the amnion equalled that of the chorion; the quantity of fluid it contained was about ten ounces.\* On its external surface, and adhering to it, one and a half inches from the root of the cord was the umbilical vesicle, a

\* This fluid Dr. Charles T. Jackson has had the kindness to analyze for me, and the following is the result of his observations:—

“Sp. gr. of the liquor—1,010,35—water being 1.

“To ascertain if the liquor contained *albumen*, separate portions of it were treated as follows:—

“1st. By boiling it in a glass capsule, a thick coagulum of albumen separated.

“2d. A portion of the fluid being treated with strong alcohol, flocculi of albumen separated.

“A portion of it treated with strong nitric acid, gave an abundant coagulum of albumen.

“To ascertain if the liquor contained *gelatine*, it was treated with a decoction of nut galls, when a thick precipitate took place, indicating *gelatine*.

“The liquor now manifesting chemical decomposition, was thrown away without farther examination.”

These experiments directly contradict the statement of M. Velpeau, who says that the fluid in question coagulates with great difficulty by means of acids, alcohol, and boiling; a difference of result, however, may be expected at the different periods of gestation.



dull, yellowish, opaque, flattened body, one and three-quarter lines in length, and one line in breadth. Its duct was about the size of a cambric thread, and could easily be traced the whole length of the cord.

The cord was eleven and a half inches long, and as large as at the full term. The child was a female; the breech presented towards the os tinæ, and the back rested against the right side of the organ, the cord partially surrounding the neck; its length was eleven and a half inches; from the vertex to the umbilicus, six and a half, and from the umbilicus to the soles of the feet, five; from the acromion process to the tips of the fingers, four and three-quarters; and from the great trochanter to the soles of the feet, four and a quarter; fine down on the head; eyelashes formed, but lids adhere at the edges; nails not formed.—*Medical Magazine, April 15th, 1835.*

*Hon. George W. Erving and Swaim's Panacea.*—The newspapers of the last month have been circulating a letter from the Ex-honourable Mr. Erving, dated at Paris, and addressed to “a friend in Philadelphia,” with instructions to “transmit it to Mr. Swaim.” This letter is a very respectable one of its kind, and will probably do something to revive the waning fortunes of the Panacea. It relates, of course, the author's personal experience of the healing virtues of the drug,—how he had been afflicted for fourteen years with an *herpetic eruption*, (?) had consulted the most eminent physicians, and finally was perfectly cured by a few bottles of the panacea. Full of gratitude and admiration of the medicine, he recommends it to an old count, who is afflicted in the same way; but first feels bound to ascertain whether it contains any mercury—although a sovereign remedy this, for certain kinds of “herpetic eruptions,” as Mr. Erving may have unwittingly experienced,—and, accordingly, puts a bottle into the hands of a French chemist, and appends the result of his analysis to the letter, as likely to be “useful to Mr. Swaim” in counteracting Dr. Hare's refutation of the imposter's falsehoods on this point. This refutation was published several years since, and has been confirmed by many physicians, who have detected mercury in the panacea, both by the chemical and physiological test. The French analysis may also be, and probably is, a correct account of the composition of the article examined; but, it is perfectly well known that different parcels of the medicine are differently made, on purpose to occasion such discrepancies, some of them containing mercury, some arsenic, and some again, bearing the same name and appearance as the others, only the syrup of sarsaparilla and other vegetable extracts. But it is a trifling question for Mr. Erving to trouble himself or others with, whether the artist employs *minerals* in the fabrication of his nostrum or not, while he is insensible to the disgrace and immorality of lending his name and influence to a gross piece of empiricism.

There is another question, and one in which the community and our infirm race are deeply and universally interested—whether the thousand diseases that flesh is heir to, shall be studied with discrimination, their phenomena observed and generalized into laws, and their treatment conducted on intelligent views of the structure and properties of the parts affected, by the application of known agents, whose chemical properties and physiological relations have been determined by scientific processes, or whether the sick shall be submitted to the random applications and vulgar arts of presumptuous and ignorant men and women—on this great question Mr. Erving has taken ground which few honest men, in a civilized community, would find it easy to reconcile with good taste, or a good conscience. His delinquency is much greater than would be that of cheating his friend into the use of a little mercury, however adverse it might be to his known prejudices; for he has contributed to extend and perpetuate these same senseless prejudices in society, which are the most potent adversaries of philosophical medicine, and the most familiar aids and apologies for empiricism. In the controversy between science and empiricism, he is found with the latter—and there we will leave him, it being our only purpose, in this brief notice, to expose the real character of the new species of negotiation in which



he seeks to figure, and to extend, so far as the limited circulation of the Magazine will do it, the equivocal reputation which such a "ministry" is likely to confer.—*Medical Magazine*, Jan. 1834.

*Case of Poisoning by Oil of Tansy.* By CHARLES T. HILDRETH, M. D.—Mrs. ———, aged twenty-seven, a widow, and the mother of a fine boy, three years old, complained to a female friend, that she had not "*seen any thing*," to use her expression for the last six weeks. She attributed the fact to having gone into a damp cellar, and wetting her feet. The night of this conversation she was very sick, in a manner similar to the females who are very ill at the menstrual period; severe intermitting pain in her back, weight, fulness, &c.—for which hot tansy tea was administered to her, with other simple remedies. By morning she was quite well. This was about three weeks since, and occurred in the city, where she was living as an assistant housekeeper. A fortnight after this, she went to Weymouth and Bridgewater on a visit to her sisters, and returned to her place in the city, in the stage, October 23d, at 5, P. M. On her arrival, she went directly out, and after considerable difficulty, succeeded in purchasing, somewhere in the city, half an ounce of the oil of tansy, (though no apothecary can be found who acknowledges having sold such an article to a woman on that day.) This she took to her chamber, and drank off, probably eating an apple or two at the time, as a large piece of the skin was found in the opening at the end of the stomach pump which was used to relieve her. She was soon called to tea, (this was a few minutes past six,) and the odour of the tansy was so strong, that all in the room perceived it. She drank half a cup of tea, eat a very little, if any bread, rose from the table in a few minutes, and went to her chamber. She soon called to the woman of the house, who ran to her assistance, and inquired the cause of her alarm, for she seemed much agitated, and had sat down on the side of the bed. She told her she had taken half an ounce of the oil of tansy, and she felt very strangely, as if she should die. Why did you take it?—a woman at Bridgewater advised me, was her reply, and I believe it will kill me. She now fell from the bed on to the floor, from the effect of a general spasm which had seized upon every muscle. After having lifted her upon the bed, and being informed as to the cause, the keeper of the house summoned us very hastily to attend her.

On our arrival, which was about fifteen or twenty minutes after the medicine was swallowed, we found her lying on the bed, free from spasm, calmly and quietly waiting the result, as if she knew it would be fatal, and as if she had made up her mind for the worst. Her skin was warm and moist, pulse soft, small and somewhat excited. She was perfectly sensible, knew the attendants, and that we were going to administer an emetic, which she seemed determined to resist. We mention these circumstances, because in those cases where we have been called from accidental poisoning, as in one from oil of tansy, a few drops of which produced slight spasms, but terminated favourably on vomiting, and others from oxalic acid, &c. the patients have invariably been anxious for relief, and willing to take any remedy which promised it. This state of the patient was noticed, on presenting her with a very active emetic which we had carried with us, of ipecac. and sulphate of zinc, and which she decidedly refused to take, but on a little persuasion from her female friend, she sat up, (we offering her a little assistance,) and took the cup; the motions, I thought, were not quite easy and natural, perhaps slightly spasmodical, and she drank it very slowly, drawing it through her lips, which were too near together to drink freely, making a sipping noise like children who do not like the taste. In this way she drank about one-half of the tea-cupful, when she was seized with a most rigid general spasm, which lasted about a minute, with very little shaking or motion. She came out of it while we were laying her down. We directly raised her up to take the remainder of the emetic, and the spasm came on again. The patient was now placed on the pillow, and a table-spoon used to separate her jaws, which were very firmly closed, and as no other part of the body was



spasmodically affected at that moment, we concluded the contractions were in part, if not altogether, voluntary; for she was so far conscious, that her hands were very freely used to prevent the administration of the emetic, but she said nothing. Her hands being secured, the emetic was soon administered, she swallowing perfectly; not a particle of it going into the wind-pipe. Some of the medicine she sent from her mouth by the force of her breath, with every appearance of premeditation. A strong mustard emetic was now given in the same way, which she resisted more strenuously than she did the ipecac. and zinc, because it was more stimulating to the fauces. It was, however, administered, and followed with warm water. The patient's body was now lifted over the side of the bed; the head in a depending posture, the body nearly vertical, with the hope that the contents of the stomach would run out by its own specific gravity; but nothing flowed from the mouth, owing to the pulp and skins of the apples, which acted like a valve of sponge to obstruct the cardiac orifice of the stomach.

A stomach pump now arrived, and with the assistance of Drs. Fisher and J. B. S. Jackson, we filled the stomach several times with warm water, and as often emptied it, the water drawn off being highly impregnated with tansy. There was no effort at vomiting, and no nausea manifested. The pupils, during the first hour, were very closely contracted, and the spasms occurred once in about twelve minutes. They were the most violent rigid kind of clonic spasms, but not conclusive; they came on instantaneously and generally, and continued about one minute. They were attended with slight, if any motion of the arms—it might be called a trembling. The arms were peculiarly affected, and invariably in the same way; they were thrown out, forward of, and at right angles with the body—the hands, at the wrists, bent at right angles, with the fore-arm supinated, the points of the fingers nearly in contact, the fingers straight, and slightly bent at the joint which unites them with the hand. The muscles of respiration were strongly affected during each paroxysm, air was forced from the chest, slowly but steadily, and made a slight hissing noise as it escaped from between the patient's lips. During the intermission of spasm, the muscles were perfectly flexible, and the transition seemed very sudden. The jaws were the only exception to this rule; they were for the first hour and a quarter rigidly closed, and were with difficulty opened, but after that were subjected to the same action as the rest of the body; when the spasms were on they were rigid, and when they were off they were relaxed; after this the pupils of the eyes became very much dilated, and remained so. Her respiration was laborious, not stertorous; blowing the mucus and saliva from her fauces and mouth, but the saliva did not appear to enter the larynx. There was no coughing, nor was there any ronchus in the wind-pipe, as there would have been if much fluid had been there—the ear would have detected it. This respiration was more marked after each spasm, but not very much unlike that of sound sleep, a part of the time when most quiet. As the patient grew weaker, the spasms were more frequent; but had about the same severity and length. The rigidity of the jaws were voluntary in the first instance, but when she lost her entire consciousness, they became permanently contracted, which was about twenty-five or thirty minutes after our arrival, and about the time the stomach pump was ready for use.

—Much impediment to the perfect use of the pump was found in emptying the stomach, from the skins of apple getting in and obstructing the free passage of the water. So that, toward the last of our efforts, we found that by holding the body vertically, leaving the gum elastic tube in, the water would run through it quite as freely as it could be pumped out. The pulsations of the heart became more and more feeble after every spasm. In the last spasm but one it could not be heard by the ear applied directly over it on the chest. The function was fully resumed in the interval, and in the next spasm she expired, five minutes before 8, P. M. from the time of taking the oil of tansy rather less than two hours.



*Examination of the body twelve hours after death.*—Frame rather large and fleshy; face and back of shoulders sublivid. Very little rigidity; but more after the examination. On abdomen those shining wrinkles, marks of her former pregnancy, were observed. *Head* not examined.

*Thorax.*—Strong odour of tansy from chest; left side healthy; right lung universally adherent, old, close, but not strong. The lungs contained a moderate quantity of very dark blood, in almost every part; otherwise healthy. Heart contained a large quantity of blood, more in right side than left, liquid; no coagula were seen in any part of the body; blood, dark and thick.

*Abdomen.*—Stomach not large; contained about eight or nine ounces of a pultaceous substance, composed mostly of apple, and smelling very strong of tansy; a small quantity of darkish fluid was seen floating on the top. The membrane was covered with a thick coat of mucus, which, on being washed off presented as healthy a mucous membrane as we ever saw, both as to thickness, firmness, and colour. We never saw it more thick, or more firm. No abrasions from stomach pump; œsophagus overlooked.

*Intestines,* healthy, so far as examined. Part of ilium and duodenum opened; in the first, Brunner's glands numerous, size of pins' heads; Peyer's not seen. The small intestines contained some fluid resembling thin gruel with a little milk in it; mucous membrane healthy so far as seen. The intestines were very empty, considering that the woman had eaten a full dinner that day, with usual appetite and good spirits; but during her ride in the stage, she was silent and dispirited; lacteals going from small intestines, numerous, large, and perfectly white.

Liver, spleen, and kidneys healthy; a small quantity of a thin creamy fluid in cavity of kidneys, in which the odour of tansy was slight. Bladder contracted, empty of urine; whole mucous membrane covered with a fluid like thin, pale cream.

*Ovaries.*—The right, natural in colour, consistence, and size; on slitting it open, two small oblong, deep red spots, or rather bodies, were cut through, one in each extremity of the organ, about the size of a large grain of wheat. Left ovary more full and plump than the right, deeper red, one quarter larger, and moderately soft; this ovary most probably furnished the ovum. On its surface was a small orifice the size of a pin, which was made very plain by placing the organ in water, when a very small particle of cellular tissue was seen undulating in the orifice held by a very small fibre, which seemed to originate from some depth in the organ. On cutting through the ovary a little to one side of this opening, a body was found, the size of a small marble, round, not firmly attached to the surrounding parts, occupying rather more than one-half of the ovary, in the then recent state; not appearing quite so large now in the preparation. This body consisted of two parts perfectly distinct in character, though at their limits passing one into the other. The outer or cortical part was about two lines thick, dull yellow colour, close in texture like lymph, and felt so, but was most probably the circumference of the ovary in a natural condition, with some coagulable lymph effused in its texture, so it appears now after maceration, the lymph being washed away and the natural texture of the ovary shown; the remainder or interior, consisted apparently of coagulated blood, dark red, contrasting beautifully with the yellow ring around; but at the point where the orifice was seen, the central deep colour was extended to the surface.

*Uterus* rather more coloured than natural. Upper part of fundus, quite a dark chocolate, perhaps cadaveric. Length of uterus four inches from extremity of os tincæ to fundus; greatest breadth two inches; just before the Fallopian tubes, neck less developed than body; it seemed rather narrow; length of neck one inch and seven-eighths. Fundus more prominent on right side than left; the whole organ feels doughy, retaining the impression of the fingers. Os tincæ quite prominent, divided into equal lips; anterior the most prominent. To the touch immediately after death, patulous; on the examination, the inner surface of the lips quite red, as if having been mechanically irritated, yet on attempt-



ing to pass a probe into the uterus after removal from the body, considerable obstruction was met with, about half an inch in which was not overcome, for fear of injuring the ovum; there was an abruptness in the termination of the mucous membrane on the edges of the os tinæ, or rather a very prominent line of demarcation where the great redness began; the mucous membrane of vagina and the outside of os tinæ being of a natural colour, perhaps rather pale. Vessels going to the uterus not much, if at all, larger than in the unimpregnated state. The uterus was opened on anterior face from near the os tinæ to fundus; and transversely, midway the body of the organ; at each extremity, inclining upwards so as to expose the opening of the Fallopian tubes, which were pervious and freely admitted a small probe. The thickness of the organ was not very much greater than in the unimpregnated state, and the substance was not so dense. Neck very little changed.

The internal surface or the cavity of the organ was filled, to the depth of two or three lines, with an exceedingly soft, almost pulpy mass, of a whitish colour, half fibrous half cellular to the eye, yet, to the touch, so delicate that it might, apparently, have been scraped off with but little, if any effort. This extended half the length of the neck, and it was that which probably obstructed the probe. It was undoubtedly organized, for it yet retains the same form and appearance after a number of days maceration, and some few but very careful examinations. Was this the decidua? or was it the internal surface of the womb in a softened state? whatever it was, it closed the internal surface or cavity of the womb upon, and united it to, the ovum, which was attached to the anterior part of the fundus, and here there was more redness than at any other part of the organ, but this not high coloured. It appeared like a rounded cyst somewhat flattened, evidently containing fluid; the cyst or outer membrane was cut through, showing at the cut edge a thin, well-formed membrane; when cut, a small quantity of bloody serum escaped. On dilating the opening, the shaggy coat of the chorion was seen; by enlarging the incision, the chorion with its ovum escaped from this sac, and fell to the bottom of the vessel; this part of the dissection being made under water. It had been slightly wounded by the knife; it was very thin, and through this opening could be seen a very delicate cyst, containing the punctum saliens about the size of a large shot, with a fine thread-like cord attached; to see this, the object was placed in the sun, and floated in clear water.

The outer cyst, or membrane, containing the chorion, was well formed, moderately thin and dense, continued round so far as was seen, forming a shut sac; inner surface smooth, but rather uneven, as if traversed by delicate bands. The chorion, with its contents, was half an inch in diameter, rather oval than round.

The subject of this paper had received attention from a man for the last year, and they spent the evening together, Sept. 26th, just twenty-seven days previous to her death, and they were not alone together for a very considerable time before or after that period, which is pretty strong proof presumptive that the age of this embryo was *twenty-seven* days.—*Ibid*, Nov. 1834.

*Dr. North's Inquiries on Diet.*—SIR,—Reports not unfrequently reach us of certain individuals who have fallen victims to a prescribed course of regimen. These persons are said, by gentlemen who are entitled to the fullest confidence, to have pertinaciously followed the course till they reached a point of reduction from which there was no recovery. If these are facts, they ought to be collected and published. And I beg leave, through your Journal, to request my medical brethren, if they have been called to advise in such cases, that they will have the kindness to answer, briefly, the following interrogatories, by mail, as early as convenient.

Should the substance of their replies ever be embodied in a small volume, they will not only receive a copy and the thanks of the author, but will have the pleasure to know they are assisting in the settlement of a question of great



interest to the country. If it should appear probable that their patient was labouring under a decline at the commencement of the change of diet, this ought in candour to be fully disclosed.

It will be perceived, by the tenor of the questions, that they are designed to embrace not only unfortunate results of a change of diet, but such as are favourable. There are, in our community, considerable numbers who have entirely excluded animal food from their diet. It is exceedingly desirable that the results of such experiments, so difficult to be found in this land of plenty, should be ascertained and thrown before the profession and the community. Will physicians, then, have the kindness, if they know of any persons in their vicinity who have excluded animal food from their diet for a year or over, to lend them this number of the Journal, and ask them to forward to Milo L. North, M. D. Hartford, Conn. as early as convenient, the result of this change of diet on their health and constitution, in accordance with the following inquiries.

1. Was your bodily strength either increased or diminished by excluding animal food from your diet?
2. Were the animal sensations, connected with the process of digestion, more—or less agreeable?
3. Was the mind clearer; and could it continue a laborious investigation longer than when you subsisted on a mixed diet?
4. What constitutional infirmities were aggravated or removed?
5. Had you fewer colds or other febrile attacks—or the reverse?
6. What length of time, the trial?
7. Was the change to a vegetable diet in your case preceded by the use of an uncommon proportion of animal food, or of high seasoning or of stimulants?
8. Was this change accompanied by a substitution of cold water for tea and coffee during the experiment?
9. Is a vegetable diet more—or less aperient than mixed?
10. Do you believe, from your experience, that the health of either labourers or students would be promoted by the exclusion of animal food from their diet?
11. Have you selected, from your own observation, any articles in the vegetable kingdom as particularly healthy or otherwise.

N. B.—Short answers to these inquiries are all that is necessary; and as a copy of the latter is retained by the writer, it will be sufficient to refer to them numerically, without the trouble of transcribing each question.

*Hartford, May 1st, 1835.*

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*University of Pennsylvania.*—The number of students in this institution at the last session was 799, of which 392 were medical students.

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*University of Maryland.*—There were 143 students attending the medical lectures during the past winter. At the close of the session 50 were graduated Doctors of Medicine.

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*Transylvania University.*—At a Commencement held March 18th, 1835, the Degree of Doctor of Medicine was conferred on 83 gentlemen.

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*Medical College of the State of South Carolina.*—There were 127 students attending lectures in this institution during the past winter.



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Charles Parry, . . . . .	<i>Hæmoptysis.</i>
J. Dickinson Miller, . . . . .	<i>Operation of Poisons.</i>
Alexander Brown, . . . . .	<i>Cynanche Trachealis.</i>
George Godell, . . . . .	<i>Pathology of Dropsy.</i>
PENNSYLVANIA.	
Abraham Rothrock, . . . . .	<i>Dysentery.</i>
Robert G. Young, . . . . .	<i>Functional Derangement of Liver.</i>
George F. M'Callmont, . . . . .	<i>Contagion.</i>
Charles W. Smith, . . . . .	<i>Gastritis.</i>
Ferdinand L. Wagner, . . . . .	<i>Conjunctivitis.</i>
C. P. Michener, . . . . .	<i>Aneurism.</i>
Daniel Carroll Harvey, . . . . .	<i>Acute Hepatitis.</i>
Traill Green, . . . . .	<i>Erysipelas.</i>
John Dyer, Jr. . . . .	<i>Cynanche Trachealis.</i>
William Hepburn, . . . . .	<i>Tetanus.</i>
William M. Mann, . . . . .	<i>Gastritis.</i>
Edwin Fussell, . . . . .	<i>Acute Peritonitis.</i>
Frederick S. Eckard, . . . . .	<i>Mental Derangement.</i>
William D. Downing, . . . . .	<i>Laryngitis.</i>
Samuel M'Clure, . . . . .	<i>Rubeola.</i>
George M'Cullough, . . . . .	<i>Apoplexy.</i>
Edmund C. Evans, . . . . .	<i>Digestion.</i>
Charles P. Keichline, . . . . .	<i>Erysipelas.</i>
Isaac A. Pennepacker, . . . . .	<i>Sleep.</i>
Rush Van Dyke, . . . . .	<i>Trephining.</i>
William H. Patterson, . . . . .	<i>Traumatic Hemorrhage.</i>
James L. Pierce, . . . . .	<i>Phthisis Pulmonalis.</i>
Robert Morris, . . . . .	<i>Traumatic Tetanus.</i>
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Edward G. Riddick, . . . . .	<i>Measles.</i>

## TENNESSEE.

William K. Love, . . . . .	<i>Erysipelas.</i>
Benjamin Rush Owen, . . . . .	<i>Progressive Mutation.</i>
Thomas T. Hogg, . . . . .	<i>Hypochondriasis.</i>
Charles Grandison Keenan, . . . . .	<i>Epidemic Cholera.</i>
John S. M'Nairy, . . . . .	<i>Cynanche Trachealis.</i>
George W. Long, . . . . .	<i>Hydrocele.</i>

## ENGLAND.

T. Lancaster Davies, . . . . .	<i>Cretinism.</i>
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## CANADA.

John Warren Lefferty, . . . . .	<i>Acute Hepatitis.</i>
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## WEST INDIES.

John William Bartlett, . . . . .	<i>Hæmorrhagy.</i>
James M. Smith, . . . . .	<i>Pertussis.</i>

*At the Commencement in July, 1834, the following gentlemen received the Degree of Doctor of Medicine.*

William B. Bacon, Georgia, . . . . .	<i>Hæmoptysis.</i>
William K. Schley, do. . . . .	<i>Delirium Tremens.</i>
Randolph Marshall, New Jersey, . . . . .	<i>Scarlatina.</i>
Abraham V. Shotwell, do. . . . .	<i>Cynanche Trachealis.</i>
Alfred Woodward, do. . . . .	<i>Pathology of Fever.</i>
William A. Mann, Alabama, . . . . .	<i>Erysipelas.</i>
John S. Hawling, Virginia, . . . . .	<i>Gonorrhœa.</i>
John Mayo, do. . . . .	<i>Cholera Infantum.</i>
Charles H. Mitchell, New York, . . . . .	<i>Phlegmasia Dolens.</i>

W. E. HORNER, M. D. *Dean of the Medical Faculty.*



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No. XXXII.—August, 1835.

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EDITOR—ISAAC HAYS, M. D.



## TO READERS AND CORRESPONDENTS.

Communications have been received from Drs. HALE, WARNER, LEE, and GERHARD.

The following works have been received:—

Transactions of the Medical Society of the State of New York. Vol. II. Part II. Albany, E. W. & C. Skinner, 1835. (From the publishers.)

The Institutes and Practice of Surgery; being Outlines of a Course of Lectures. By WILLIAM GIBSON, M. D. Professor of Surgery in the University of Pennsylvania, &c. Fourth edition, greatly enlarged. Philadelphia, 1835, Carey, Lea & Blanchard. (From the publishers.)

Remarks on the Abracadabra of the Nineteenth Century; or on Dr. Samuel Hahnemann's Homœopathic Medicine, with particular reference to Dr. Constantine Hering's "Concise View of the Rise and Progress of Homœopathic Medicine." By WILLIAM LEO WOLF, M. D. New York. Carey, Lea & Blanchard. (From the publishers.)

Transactions of the Provincial Medical and Surgical Association. Vols. I & II. (From Dr. J. Clark.)

Sketch of the History of Medicine from its origin to the commencement of the Nineteenth Century. By J. BOSTOCK, M. D. London, 1835. (From Dr. J. Clark.)

Dissertation on the State of Medical Science from the termination of the Eighteenth Century to the Present Time. By W. P. ALISON, M. D. London, 1834. (From Dr. J. Clark.)

The British Medical Almanack for 1835. (From Dr. J. Clark.)

A Popular Essay on Vaccination. By a Physician. New York, 1835. (From the author.)

De Nova Morbos Chronicos ope pastus Taraxacini Curandi Ratione. CAROLUS TH. MENKE, M. D. Pyrmonti, 1833. (From Dr. Von dem Busch.)

Die Homöopathie eine Irrlehre. Nach den eigenen Geständnissen der homöopathischen Aerzte von Dr. W. KRAMER. Berlin, 1833. (From Dr. Von dem Busch.)

Das Eisenoxydhydrat, ein Gegengift der arseninger Säure. Von R. W. BUNSEN, D. P. und A. A. BERTHOLD, M. D. Göttingen, 1834. (From Dr. Von dem Busch.)

Ideen und Erfahrungen über die natur und behandlung der Asiatischen Brechrühr mit besonderer beziehung auf die Anwendung des Wismuths gegen dieselbe. Von Dr. LEOPOLD LEO. Warschaw, 1832. (From Dr. Von dem Busch.)

Syllabus of a Course of Lectures on the Materia Medica, delivered in the Medical College of the State of South Carolina. By HENRY FROST, M. D. Charleston, 1834. (From the author.)

Boston Journal of Natural History. Part I. Nos. 1 and 2. Boston, 1835. (From the society.)

Annales de la Médecine Physiologique, December, 1834. (In exchange.)

Journal Hebdomadaire des Progrès des Sciences Médicales, January, February, March, April, 1835. (In exchange.)

Révue Médicale Française et Etrangère Journal des Progres de la Medecine Hippocratique, January, February, March, 1835. (In exchange.)

Journal des Connaissances Médico-Chirurgicales, October, November, December, 1834; January, February, March, April, 1835. (In exchange.)

Archives Générales de Medecine; Journal Complementaire des Sciences Médicales, December, 1834; January, February, March, 1835. (In exchange.)

Gazette Médicale de Paris, January, February, March, April, 1835. (In exchange.)

La Lancette Française, Gazette des Hopitaux, January, February, March, April, 1835. (In exchange.)



Journal de Pharmacie, January, February, March, April, 1835. (In exchange.)

Mémorial Encyclopédique et Progressive des Connaissances, January, February, March, 1835. (In exchange.)

Magazin der ausländischen Literatur der gesammten heilkunde, &c. herausgegeben von Drs. GERSON und JULIUS, January, February, 1835. (In exchange.)

The Transylvania Journal of Medicine and the Associate Sciences, January, February, March, April, May and June, 1835. (In exchange.)

North American Archives of Medical and Surgical Sciences, May, June, July, 1835. (In exchange.)

Western Medical Gazette, March and April, 1835. (In exchange.)

The Western Journal of the Medical and Physical Sciences, April, 1834. (In exchange.)

Supplement to the Western Journal of the Medical and Physical Sciences for April, May and June, 1835.

The Medical Magazine, May, June, July, 1835. (In exchange.)

The Boston Medical and Surgical Journal, Vol. XII. No. 12 to 24. (In exchange.)

The United States Medical and Surgical Journal, from August, 1834 to July, 1835. (In exchange.)

London Medical Gazette, February, March, April, May, 1835. (In exchange.)

London Medical and Surgical Journal, January, February, March, April, May, 1835. (In exchange.)

Dr. Ryan's London Medical and Surgical Journal, August, September, October, November, December, 1834; and January, February, March, April, May, 1835. (In exchange.)

Medico-Chirurgical Review, April, 1835. (In exchange.)

The Edinburgh Medical and Surgical Journal, April, 1835. (In exchange.)

The Jamaica Physical Journal, April 1, 1835. (In exchange.)

For the satisfaction of our contributors, we continue the references to the works received during the last six months, in which they will find their communications noticed.

Professor CHAPMAN will find his paper on Neuralgia noticed in the Gazette Médicale for October, 1834, Journ. des Connaiss. Med. Chirurg. November, 1834, Medical Quarterly Review, April, 1835, and U. S. Med. and Surg. Journ. for February, 1835; and that on Angina Pectoris in the Med. Chirurg. Zeit. for May, 1834.

Professor GIBSON's case of Extirpation of a Tumour from the Neck is copied in the Quarterly Medical Review for October, 1834, and noticed in the U. S. Med. and Surg. Journ. for October, 1834.

Professor MOTT's cases of Axillary Aneurism and Ligature of Carotid are noticed in the Med. Chirurg. Zeit. for May, 1834.

Professor DEWEES's paper on Irritable Uterus is noticed in the Med. Chirurg. Zeit. for May, 1834.

Professor HORNER's case of Abscess of Liver is noticed in the Archives Générales, September, 1834, and in the U. S. Med. and Surg. Journ. for Dec. 1834.

Professor DICKSON's case of Amnesia is noticed in the Med. Chirurg. Zeit. for May, 1834; and his article on the Communicability of Cholera is noticed in the U. S. Med. and Surg. Journ. for October, 1834.

Professor SEWALL's case of Fungous Hematodes is noticed in the Med. Chirurg. Zeit., May, 1834.

Dr. JACKSON's Account of the Cholera is noticed in the Medical Quarterly Review for October, 1834, and his Cure of Obscure Carditis, &c. is noticed in the Gazette Médicale for April, 1835.

Dr. JACKSON's, of Northumberland, paper on the Use of Cold Water in Scar-



latina is noticed in the Cincinnati Medical Gazette for July, 1834; that on Belladonna in Pertussis is noticed in the Western Journal of Medical and Physical Sciences for October, 1834; Gazette Médicale, for October, 1834; Journ. des Connaiss. for November, 1834, and U. S. Med. and Surg. Journ. for February, 1835; on Rhubarb in Hæmorrhoids; and that on Delirium Tremens in Med. Chirurg. Zeit. for May, 1834.

Dr. HARRIS's cases of Neuralgia Cured by Galvanism are noticed in the Western Journal of Medical and Physical Sciences, for October, 1834; in the Gazette Médicale, for October, 1834; Arch. Gén. for October, 1834, and in the Journ. des Connaiss. for November, 1834; and his case of Chronic Intumescence of Tongue is noticed in the Med. Chirurg. Zeit. for May, 1834.

Dr. BARTON's Case of Longitudinal Section of Lower Jaw is noticed in the Med. Chirurg. Zeit. for May, 1834.

Dr. SWETT's case of Destruction of Uterus, Perineum, &c. after Parturition is noticed in the Gazette Médicale for October, 1834; Arch. Gén. for October, 1834; Lancette Française, for October, 1834; and in the Journ. des Connaiss. for November, 1834, and Révue Médicale, March, 1835.

Dr. TICKNOR's Anomalous Case is noticed in the London Medical Gazette, for August, 1834; in La Lancette, for October, 1834; in the Journ. Hebdom. for October, 1834, and in the U. S. Med. and Surg. Journ. for December, 1834.

Dr. PARRISH's case of Ununited Fracture is noticed in the Journ. des Connaiss. for November, 1834; Western Journal of Medical and Physical Sciences, for October, 1834; Gazette Médicale, for October, 1834; Med. Chirurg. Rev. for January, 1835; Gerson and Julius' Journ. for January, 1835; La Lancette, for October, 1834; Révue Médicale, for March, 1835.

Dr. ROGERS' case of Ossification of the Muscular Tissue is copied in the Medical Quarterly Review, for 1834; and noticed in the Révue Médicale, for June, 1834, and U. S. Med. and Surg. Journ. for October, 1834; and his Case of Fractured Spine is copied in the Boston Medical and Surgical Journal, for June 15th, 1835.

Dr. LA ROCHE's paper on the Balsam Copaiba is noticed in the Révue Médicale for November, 1834, and U. S. Med. and Surg. Journ. for December, 1834.

Dr. LINDSLY's paper on Amenorrhœa is noticed in the Révue Médicale for June, 1834, and the U. S. Med. and Surg. Journ. for October, 1834.

Dr. SOMERVAIL's communication on the Use of Camphor and Muriate of Ammonia in Retention of Urine is noticed in the Révue Médicale for November, 1834, Medical Gazette, for January, 1835, and La Lancette Française, for January 1st, 1835.

Dr. HUSTON's case of Hypertrophy of Mammæ is noticed in La Lancette for October, 1834; Gazette Médicale for October, 1834; Med. Chirurg. Rev. for January, 1835; Journ. des Connaiss. for November, 1834, and Révue Médicale, for March, 1835.

Dr. SMART's case of Tetanus is noticed in the Med. Chirurg. Zeit. for May, 1834; and his paper on Prussiate of Potash is noticed in the Gazette Médicale, for April, 1835.

Dr. RANDOLPH's paper on Morbus Coxarius is noticed in the Med. Chirurg. Zeit. for May, 1834; and his cases of Lythotripsy are copied into the Transylvania Journal for April, 1835.

Dr. TOLEFREE's Remarks on Circular and Flap Operation are noticed in the Medical Quarterly Revue for July, 1834.

Dr. KIRKBRIDE's Surgical Reports are noticed in the Medico-Chirurgical Review, for January, 1835; and in the London Medical and Surgical Journal, for May, 1835.

Dr. YOUNG's paper on Gangrenous Sore Mouth is noticed in the Med. Chirurg. Zeit. for May, 1834; and that on the Use of the Cimicifuga Racemosa in Chorea in the Medical Quarterly Review for April, 1834.



Dr. ZABRISKIE's case of Amnesia is noticed in the Lond. Med. Gaz. for September, 1834.

Dr. WORREL's case of Adhesion of Placenta is noticed in the Lond. Med. Gaz. for September, 1834.

Dr. GILLESPIE's cases of Neuralgia are noticed in the Ephem. der Nat. Wet. for August, 1834: Archiv. Gén. for September, 1834, and in U. S. Med. and Surg. Journ. for December, 1834.

Dr. WEEVER's Œsophagus Forceps are noticed in the Ephem. der Nat. Wet. for September, 1834, and in U. S. Med. and Surg. Journ. for December, 1834.

Dr. HULSE's case of Ununited Fracture is noticed in the Rev. Méd. for June, 1834, Gerson Julius' Magazin, for January and February, 1835, and U. S. Med. and Surg. Journ. for October, 1834.

Dr. TOR's Extraordinary Case of Pregnancy is noticed in the Med. Chirurg. Zeit. for May, 1834.

Dr. GRISCOM's paper on the Apocynum Cannabinum is noticed in the Bib. for Læger, No. 2, 1834.

Dr. JANEWAY's case of Constipation relieved by Injection of Air, is noticed in the Med. Quart. Rev. for April, 1834.

Dr. FINDLY's observations on Lithotomy are noticed in the Journ. Des. Connaiss. for November, 1834, and Gaz. Méd. February, 1835.

Dr. HARRISON's case of Retained Placenta is noticed in the Boston Med. and Surg. Journ. for April 15th, 1835.

Dr. MITCHELL's papers on the Penetrativeness of Gases, and on a New Treatment of Rheumatism are noticed in the Med. Chirurg. Zeit. for May, 1834.

Dr. HEUSTIS' papers on Pathology of Liver and Spleen, and Topography of Alabama, are noticed in the Med. Chirurg. Zeit. for May, 1834; and his Remarks on Permanent Adhesion of Placenta to the Uterus, are noticed in the Gaz. Médicale, for February, 1835.

Dr. CHARLTON's case of Retained Placenta is noticed in the Gaz. Méd. for February, 1835.

Dr. KECKLEY's new Splint for Fracture of Clavicle is noticed in the Gaz. Méd. for February, 1835.

Dr. WADDEL's remarks on the Mechanism of the Diseases of the Sympathetic Nerve are noticed in the Gaz. Méd. for February, 1835.

Dr. GERHARD's reports are noticed in the Gaz. Méd. February, 1835.

Dr. RAMSAY's cases of Poisoning with Arsenic, are given in La Lancette Française, February 24th, 1835.

The above list, though we have been compelled, by want of space, to curtail it more than one-half, presents a sufficient disproof of the assertion of the Editor of the Boston Medical and Surgical Journal, that "though the cases and speculations of European medical writers are copied and recopied from one city to another, continually, it is a *rare thing*, indeed, to discover the reprint of an American medical report in foreign Journals."

Authors of new medical books, desirous of having them reviewed or noticed in this Journal at the earliest opportunity, are invited to transmit to the *Editor* a copy as soon after publication as convenient, when they will receive prompt attention. Under ordinary circumstances, very considerable delay is caused by the circuitous routes through which they are received.

Papers intended for publication, should be sent, *free of expense*, as early after the appearance of the Journal as possible, in order to be in time for the ensuing number. Such communications should be addressed to "CAREY, LEA & BLANCHARD, Philadelphia, for the Editor of the Medical Journal of the Medical Sciences."

All letters on the *business* of the Journal to be addressed exclusively to the publishers.



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tischen Heilkunde, dargestellt und beurtheilt. Von D. Georg August Richter, Ordentlichem Lehrer der Medicin auf der Universität zu Königsberg. Erster Band. Zweite, sehr vermehrte und verbesserte Auflage. 8vo. Berlin, 1828.	
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XVII. The Philosophy of Health; or an Exposition of the Physical and Mental Constitution of Man, with a View to the Promotion of Human Longevity and Happiness. By Southwood Smith, Physician to the London Fever Hospital, to the Eastern Dispensary, and to the Jews' Hospital. Vol. I. pp. 408. 12mo. London, 1835 - - - - -	451
XVIII. Kritisch-etymologisches Medicinisches Lexikon oder Erklärung des Ursprungs der besonders aus dem Griechischen in die Medicin und in die zunächst damit verwandten Wissenschaften aufgenommenen Kunstaussdrücke, zugleich als Beispielsammlung für jede künftige Physiologie der Sprache, entwerfen. Von Ludwig August Kraus, Dr. Philos. et Medic. legens zu Göttingen, Mitglied der Königl. Preuss. Gesellschaft der Aerzte und Wundärzte zu Berlin, der Grossherzoglichen Gesellschaft für die gesammte Mineralogie zu Jena u. a. gel. Gesellschaften. Zweite, stark vermehrte, Auflage. Göttingen, 1826. 8vo. pp. 888.	
Nachtrag zu dem Kritisch-etymologischen Medicinischen Lexikon. Von Ludw. Aug. Kraus, u. s. w. Göttingen, 1832. 8vo. pp. 420.	
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XX. Traité de Physiologie Médicale et Philosophique. Par Alm. Lepelletier, de la Sarthe. Experientia veritas. Quatre volumes in 8, avec 11 planches et des tableaux synoptiques. Tome quatrième. Paris, 1833. pp. 588.	
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XXII. The Institutes and Practice of Surgery. Being the Outline of a Course of Lectures. By William Gibson, M. D. Professor of Surgery in the University of Pennsylvania, Surgeon and Clinical Lecturer to the Alms-house Infirmary, &c. Fourth edition, greatly enlarged. Philadelphia, 1835. 2 vols. 8vo. pp. 877	460
XXIII. Transactions of the Medical Society of the State of New York. Vol. II. Part II. Albany, 1835. 8vo. pp. 266	461
XXIV. De Thalamo et origine nervi optici in Homine et animalibus vertebratis. Dissertatio anatomica, quam, ad summos in Arte medica honores rite capessendos, die II. Aprilis H. L. S. Defendere Studebit, Sophus Augustus Wilhelmus Stein, Chirurgiæ et Medicinæ candidatus, Chirurgus legionnarius; &c. Hauniæ, MDCCCXXXIV. 4to. pp. 66.	
An Anatomical Dissertation on the Thalamus and origin of the Optic Nerve in Man and the other Vertebral Animals. Defended for the Degree of Doctor in Medicine by S. A. W. Stein. Copenhagen, April 2d, 1834	463
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Observations upon the Nature and Treatment of the Asiatic Cholera, with particular reference to the Administration of Bismuth as a Remedy for the Disease. By L. Leo, M. D.	ib.
XXVI. Ephemeriden der Naturkundige Wetenschappen. Eerste Deel. 'Sgravenhage, 1834.	
Bibliothek for Læger. Redigeret af dens medlem G. Otto, M. D. Kobenhavn, 1834.	
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#### ERRATA.

Page 101, lines 5, 6, and 10 from bottom, for "*diameter,*" read "*circumference.*"

160, line 14 from bottom, for "*and pregnancy in prostitutes.*" read "*and pregnancy? In prostitutes.*"

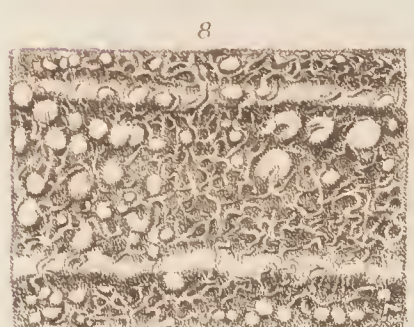
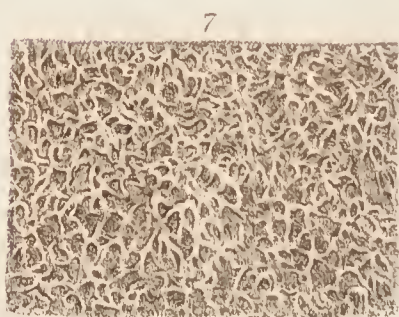
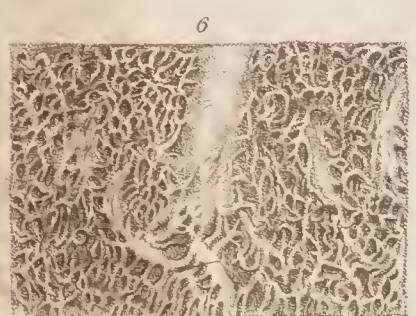
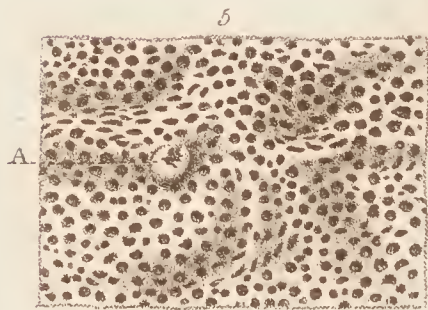
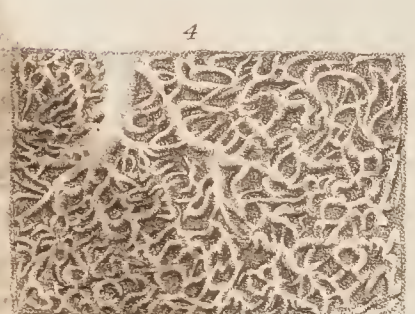
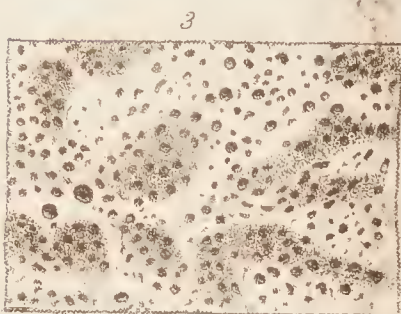
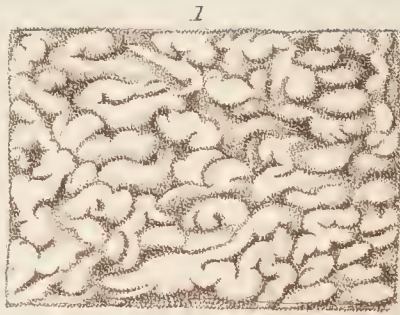
473, line 19 from bottom, for "*cennexion,*" read "*concretion.*"







PLATE 1 .



*Drawn from Nature & Engr<sup>d</sup> by J. Drayton.*



PLATE 2 .



*Drawn from Nature & Engr<sup>d</sup> by J. Drayton.*







THE  
AMERICAN JOURNAL  
OF THE  
MEDICAL SCIENCES.

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ART. I. *On the Anatomical Characters of Asiatic Cholera, with Remarks on the Structure of the Mucous Coat of the Alimentary Canal.* By W. E. HORNER, M. D. Professor of Anatomy in the University of Pennsylvania. (Part II.)

THE views offered in the preceding part of this article,\* relative to the structure of mucous membrane, present at least, a degree of novelty by determining, with some precision, the whole number of the follicular pores of the alimentary canal, and how they are in every instance formed by meshes of veins, while the arteries enter only inconsiderably into their composition, to an amount in some measure comparable to the presence of the arteries in other erectile tissues, as the corpus spongiosum and cavernosum penis. In the latter it is familiar to every practised anatomist, that the branches of the arteries are but small, as they terminate in the cells of the penis, which are to be considered as only a modification of the incipient stage of venous trunks. If the corpus spongiosum were in fact spread out into a thin membrane, so as to line a hollow viscus, it would present no very exaggerated representation of what I have denominated the *superficial venous layer* of the alimentary canal; it being also admitted that within the circuit of every anastomosis a follicle was formed. Viewed on the preparations of the mucous membrane of the small and large intestines which I have, these follicles appear like puncta lachrymalia disseminated by thousands over every inch square, and existing so invariably upon every part that, as I have stated, the smallest calculation of their numbers puts them at from forty to fifty millions. It is now to be borne in mind, that it is the whole of this vascular and follicular structure, endowed

\* No. XXXI. p. 58.



with vital actions the most important to life, and presenting in the aggregate an area of about thirteen square feet, the size of a small breakfast table, whose morbid derangements constitute the essential features of cholera. But it has been shown in some of my dissections, that this apparatus in the progress of cholera is detached entirely from the stomach and colon, in consequence of the excessive actions going on in them. The small intestines also, in some of my preparations, exhibit in patches a similar phenomenon; but as the entire observation has been presented to me in its true light only since the disappearance of the disease, I have no means of ascertaining the extent to which they suffer in this way.

The anatomy of the muciparous system of the alimentary canal unquestionably requires a more exact attention than has been heretofore bestowed upon it, especially so as to distinguish between that part which is really glandular, and the foramina or follicles now under consideration. The following extract will explain the difficulty which still exists in regard to a proper conception of the latter.

“The mucous glands, called also follicles or cryptæ mucosæ, are to the membranes of that name, what the sebaceous follicles are to the skin; that is to say, folds of the mucous membrane in form of a *cul-de-sac*, whose orifices open upon that membrane. These *follicles have not yet been discovered over the whole surface of the mucous membrane*; but here, as with the skin, analogy leads us to admit them. It is not long since they have been discovered in the pituitary membrane, where their existence had been denied. Be this as it may, we shall use the same observation upon these glands that was made on the sebaceous, viz. the impossibility of making an exact dissection of the capillary tissues does not allow us to discover all the forms of animal matter; but wherever a particular humour is found in a tissue, we are forced to conclude that this latter is organized in such a manner as to be able to produce it, and when in place of one humour we meet with many, we must acknowledge that the tissue is complex. Such is precisely the case with the mucous membrane of the digestive canal, and especially of the stomach, which could have a form of animal matter calculated to furnish digestive juices, although no gland destined to that purpose is discoverable.”\*

This desideratum of positive evidence, instead of the inductive, is clearly supplied to M. BROUSSAIS by my preparations. In infancy especially, the glands have a sensible thickness, which enables us to see them, but the smallest of them require the aid of a microscope,

\* Broussais' Physiology. First American edition, p. 419.



and appear to have been described by GALEATI.\* As the paper is not to be had in any of the public libraries of this city, I can only quote from it on the current authority of anatomical works. In a note to the anatomy of the human body by Sir CHARLES BELL, article Intestine, it is stated as follows:—"It has been supposed that the fluids excreted from the surface of the intestines were furnished by very minute foramina, (which are visible by particular preparations,) in the interstices of the villi. See the letter of MALPIGHI to the Royal Society of London on the pores of the stomach, and the paper by M. Galeati in the Bologna Transactions, on the inner coat, which he calls the cribriform coat. The pores, according to Galeati, are visible through the whole tract of the canal, and particularly in the great intestines." MECKEL designates these as glandular bodies under the name of *glandulæ mucosæ, cryptæ minimæ*. Another order of glands are those of Brunner.† They are readily found in the duodenum at all ages; and particularly well in infancy, as low down as the ileo-colic valve. The third order are the glands of Peyer, discovered in 1677,‡ and are situated in the length of the ileum, where they form about thirty oval groups. The celebrated RUYSCHE appears also to have understood the existence of the follicles of the stomach, and SWAMMERDAM to have had some idea of those of the small intestines,§ and he calls them *tubuli glandulosi intestinorum interiores*. I may here remark, that the account of the villi of the small intestines given by HEDWIG, in his *Disquisit. Ampullarum, &c.* 1797, and which appears, from its introduction into CALDANI's and M. JUL. CLOQUET's Anatomy, to have a classical value, is, judging from my own preparations, too much a work of the imagination, executed under probably some fallacious views of the part itself: a cluster of cylindrical villi, with holes at the ends, would be an anomaly, for those of the upper part of the intestines are either serpentine folds, as represented in my plates, with branches running into contiguous folds, or semi-oval plates; while those lower down are of a flattened conical shape, somewhat bent, but in every instance they are destitute of what has been termed by LIEBERKUHN an ampulla, and to my eye have uniformly polished surfaces, uninterrupted by foramina.

\* *De cornea ventriculi et intestinorum tunica.* Comm. Bonon. 1745.

† *Glandulæ intestini duodeni vel pancreas secundarius*, discovered in 1715. See Mangetus, *Theat. Anat.* where this paper is introduced with the plates illustrative of it.

‡ See also Mangetus for the description from Peyer, with his plates.

§ Mangetus *Theat. Anat.* Vol. I. p. 310.



MASCAGNI has also introduced views of a good kind in regard to the follicular structure of the stomach and colon.\* But it is to Sir EVERARD HOME, that we are indebted for one of the best papers on the glandular structure of the stomach of different animals.†

As the real muciparous glands have an orifice leading into each, by the admission of anatomists, the follicles described commonly by them, are of this description, and are not comparable in number to the follicles found in the venous meshes. The highest estimate of the number of the former, as made by Mr. LELUT, fixes them at about forty-two thousand.‡ In consulting many of the distinguished modern authorities on this subject, there seems to be scarcely any thing in the anatomy of the intestinal canal which is presented in a more indefinite way; especially in regard to the small intestines, than the difference between the follicles, properly speaking, and the glands; and none of them, so far as I know, have undertaken to approximate the entire number of the follicles.

This digression will probably be pardoned, for the reason that, in treating of cholera, errors of a fundamental kind, from a want of suitable knowledge in the minute structure of the alimentary canal, are introduced into writings of great weight; as I shall have occasion to show in the progress of this paper.

In admitting the central point of cholera to be in the abdomen, there are three leading theories which profess to explain the character of the lesion. One of them is the nervous theory; the second that of passive vascular congestion; and the third that of acute inflammation.

A writer who has enriched the pages of this journal§ by an ingenious and excellent paper on malignant cholera, my friend Dr. HODGE is among the firm supporters of the first theory, under the following proposition. “I have no hesitation, however, in expressing the opinion, founded on an attentive examination and consideration of these facts, that there is a sedation of organic life in the alimentary canal; especially that there is a diminution of capillary excitement throughout the whole extent of the mucous membrane, from the mouth to the rectum in all cases of a simple uncomplicated character.” (p. 408.) Again. “From this review of appearances during life and after death,

\* *Prodromo della grande anatomia.* Tab. xiii.

† Phil. Trans. 1807 and 1817.

‡ Bouillaud, *Traité du Choléra*, p. 256.

§ Vol. XII. p. 386.



we infer that there is a sedation of the organic actions in the incipient as well as the confirmed cases of cholera, on internal as well as external surfaces, of the large blood-vessels and the heart, as well as of the capillaries." (p. 409.) "The conclusion to which we have been brought is, that in cholera maligna there is *a universal sedation of the organic life*, manifested primarily in the capillary tissue, then in the larger vessels and heart, with a consequent passive congestion of an impure blood in the internal tissues, aggravating the sedation, and resisting the natural disposition to reäction; and that there is also a peculiar and morbid irritability of the cerebro-spinal nervous system, the apparatus of animal life." (p. 419.)

Mr. ANNESLEY\* says I regard epidemic cholera therefore as essentially an affection of the nervous system, and consider the diminution of the nervous power to be the proximate effect of the efficient cause of the disease—that cause being the electrical condition of the air, arising from or accompanied by terrestrial exhalations of a kind unfavourable to animal life.

Another advocate of the nervous doctrine of cholera, is Mr. J. DELPECH,† who gives the following summary of his observations. "The common and ordinary result has been a remarkable alteration, principally of the semilunar ganglions. Those organs more voluminous, and of a texture less dense than the nerves of the adjoining plexuses, have probably retained better the traces of the physiological alterations which they had experienced; they have often shown themselves swollen, red, more or less strongly injected, and sometimes softened to a very remarkable degree. The injection which penetrates them, colours them red, when in all the remainder of the body the capillary system is injected black. This very remarkable phenomenon cannot fail to recall the painful sensation which occurs so constantly in the prodromes, and in the beginning of cholera, and the precise seat which it occupies.

"The solar plexus is likewise in an unnatural state, which is more or less obvious, but always perceptible by the size of the nerves which compose it, often by the red injection of their neurilema, and sometimes even by the softening of the nerves which form it, which are then ruptured by the slightest effort, or the lightest pressure. This plexus is then formed by broad red bands, and not by filaments of a grayish white as in the natural state.

"The renal plexuses have presented sometimes alterations of the

\* Diseases of India, p. 147, London, 1825.

† Etude du Choléra Morbus en Angleterre et en Ecosse, p. 196.



same kind, but they have not showed themselves so frequently, and never with the same intensity. The affection appears to have been a simple extension of that of the adjoining nerves.

“The same appears to have been the case with the pneumogastric; its inferior part has been seen by us swollen and coloured red, and only by an extension of the alteration of adjoining nerves; this point alone has seemed to have preserved the material traces of an affection which probably had extended further in the length of this nerve. In one case alone the pneumo-cardiac plexus has exhibited itself likewise composed of nerves more voluminous than common.”

The preceding extracts from M. Delpech may be considered as exhibiting the very incarnation of the nervous theory, which has likewise its advocates to some extent in Germany. In opposition to this it may be remarked, that the general testimony of anatomists so far from concurring in it, is adverse; and that in admitting the observations of M. Delpech to be correct to the extent of the cases to which they are applied, they do not harmonize with the generality; and must therefore be left with their appropriate weight to some future day, when their value may be better understood.

Of the advocates of congestion, M. MAGENDIE holds a most conspicuous rank,\* and has sustained his views with a degree of strength and ingenuity, in harmony with his eminent talents as a physiologist and practitioner. Having however taken a wrong point of departure, he has as might be expected from a logical and well disciplined mind, by keeping up its inferences, gone remarkable astray from the truth, and from the host of able men by whom he is surrounded. According to him, the fundamental phenomenon of cholera is a suspension of the circulation, which arises principally from a debilitated contraction of the ventricles of the heart. “Behold,” says he, “the character, and principal and general fact of the blue cholera. The ventricles of the heart being debilitated, there results cold, discoloration of the face; and as the feebleness of the contractions proceeds incessantly, the result is the very remarkable fact of the stagnation of the blood in the veins, and the blue colour of the skin.” (p. 13) In support of this hypothesis, Mr. M. brings forward the evidence of a similar colour produced by an experiment, where, by a mechanical impediment to the arterial circulation in the leg of a dog, he has found the stagnation of blood to occur in the veins.

In opposition to this, it may be stated that in fainting there can be no doubt of the action of the ventricles of the heart being weakened;

\* *Lecons sur le Cholera Morbus*, Paris, 1832.



and yet instead of its giving rise to a blue colour from the stagnation of blood; pallidness, and recession of blood from the capillaries is its invariable character. The general capillaries unquestionably execute languidly in cholera their office of forwarding the blood, and we may hence rationally infer that they are affected with atony; but does it not appear more probable that the latter is a sympathetic condition produced by the extreme pathological actions of the mucous membrane of the alimentary canal, the sympathies being conveyed either by the great sympathetic nerve, or by that more refined innervation of parts of which anatomy knows so little, but which unquestionably exists.

Another fundamental proposition of M. Magendie, is that the first effect of inflammation is to obliterate the capillary vessels by which the arterial system communicates with the venous. But he finds that in cholera an injection of water passes easily from the arteries into the veins of the intestines, and in doing so the stagnated blood of the latter is removed; therefore the capillaries are not obstructed, and consequently there is no inflammation.

This proposition, like the first, has certainly notable exceptions; no one can doubt that a blister is attended with inflammation, and yet we find in many cases of recent vesication the redness to disappear on death. Most cutaneous eruptions, which are unquestionably an inflammation, as measles and erysipelas, disappear on death; and yet by a minute red injection, they can be brought out again, showing that though the blood has been removed from the part, yet its channels still retain the type of inflammation.

Mr. M. avoids the consequences of the inflammatory lining and deposits found in the alimentary canal, by considering them to be intestinal mucus mixed with serosity, and the declaration that he has seen the same on the alimentary canal of executed criminals, and that he has even found the lining to reform itself three or four times on being cleared away, (p. 75.) In opposition to this, I may state, that if there be any criterion whatever, whereby coagulating lymph may be proved not to be mucus, that criterion judges clearly the case of cholera. Of the several tests, spirit of wine is one of the most accurate, by its coagulating fibrine firmly, while its action is comparatively inefficient on mucus.\* By the application of such a test to the fibrinous secretion of cholera, the merriment of M. M.'s class at the idea of a violent inflammation producing a fluid like rice-water, would probably have been converted into an admission of the fact.

M. Magendie to get rid still more of the obligation to consider

\* See Case III. p. 68, of this Journal.



cholera as an inflammatory affection, simulates its discharges by injecting water into the artery of an intestine, which as every anatomist knows, exudes into the cavity of the intestine; and then he says, “behold an intestinal liquor formed after death, here is an anatomical fact. We have often seen the discharges of cholera which had entirely the aspect of this liquor. If it had been taken from a close stool, it would have passed for the secretion of cholera.” He finds the same phenomenon still better by injecting a vein. He has, however, no small difficulty in reconciling his idea of a stagnation of blood in the intestines with so large a discharge from them; his hypothesis is that it may be supposed that the blood concentrated in the venous system, and pushed back towards the intestines by the efforts to vomit, is diffused upon the intestinal canal and there effused; but the value of his theory is immediately lost, by a declaration that it is only the most probable conjecture adapted to the case, and that whoever affirms positively the mode of this phenomenon, either abuses himself or abuses others. This paragraph is so remarkable that it is worth while to give the whole. “There is not, I think, any data within the knowledge of physiologists of which I am completely ignorant. I then affirm that one cannot explain entirely the secretion which occurs in the intestinal canal; and still less would I look for an explanation of this secretion in the follicles which exist in the intestinal canal. When we have studied with attention the mode of this secretion, it is known that the greatest part of this secretion is not made by the follicles, because they are in too small a number to discharge so great a quantity of liquid. They concur, I admit, to the intestinal secretion, but they cannot be regarded as its only source. In fact, when you take a living animal, you cut open its intestine and expose its mucous membrane, you will scarcely have wiped it dry before a new layer of mucus appears. It is not by the follicles, but by the mucous membrane itself, that the intestinal secretion is made; this point of physiology is beyond any kind of difficulty.” (p. 86.)

This passage may be considered as proof positive, that M. Magendie has yet to be informed that the whole amount of follicles in the alimentary canal is not far from fifty millions, though the fact may be still unsettled, whether they absorb as well as secrete, by inverting their action according to circumstances, as we see in serous membranes.

In the midst of the obscurity and entanglement of these and other speculations of the celebrated professor, there are traits of light of much value. Thus he considers that so long as the intestinal circula-



tion proceeds, there is an absorption by its veins, for he repudiates wholly the idea of liquids being taken up by the chyliferous vessels. The rapidity of this absorption will consequently depend on that of the circulation; the latter being retarded in the cold stage, absorption is slow; thus commonly it requires five minutes in a cholera patient for an enema of camphor to be perceived in the breath; while one minute only is requisite in other cases of sickness.

M. Magendie having once determined his fundamental point, of a weakness of the ventricles of the heart and a consequent torpor of the circulation, producing the appearances of the alimentary canal, subsequently applies this principle to every other organ of consequence, and finds a complete solution of its state through this master key of theory; it will be unnecessary however, to trace him through the whole problem, as its primary defects are sufficiently obvious.

The third class of pathologists are those I have said who consider the local phenomena of cholera on the alimentary canal as inflammatory. Should a question of such obscurity arrive at a determination by mere numbers, the verdict would certainly be in their favour.

In our own country, two of its most eminent professional authorities, besides many others, are the advocates of this doctrine.\*

The concurrence of the British surgeons of India in this opinion is remarkable.† Their observations show that the internal organs generally, were in a state of high venous congestion, with inflammation of the alimentary canal. Dr. DE GRAVIER, the chief French physician at Pondicherry, saw the inflammation of the stomach and intestines so well marked, that he considered it to give rise to all the other symptoms by means of irritation, and went so far as to call the disease gastro-enteritis. Mr. CORBYN‡ details such appearances of inflammation in the stomach and bowels as should leave no doubt of the fact, and among other indications of it, the inner surface of the stomach was frequently seen lined with *coagulating lymph*.

The general concurrence of the French pathologists in regard to the inflammatory nature of the lesions of the alimentary canal in cholera, is also opposed by as few dissentients as that of the British surgeons in India, and if any thing could have been pre-

\* See American Journal of the Medical Sciences, Vol. XII. Lecture on Cholera Morbus. By N. Chapman, M. D. Professor, &c. Personal Observations on Epidemic Cholera. By Samuel Jackson, M. D. Assistant to the Professor, &c.

† Reginald Orton. Essay on Epidemic Cholera, from p. 41 to 50, inclusive. London edition, 1831.

‡ *Treatise on the Cholera of India*, p. 179. Calcutta, 1832.



viously wanting in the force of this testimony, it would appear to be now complete, by the highly finished plates on the subject, of M. CRUVEILHIER, in his *Anatomie Pathologique*, Liv. XIV. Some of the more distinguished names of this side are GENDRIN,\* BOUILLAUD,† F. J. V. BROUSSAIS,‡ GERARDIN ET GAIMARD.§ An exposition of the testimony of several of them, as well as that of other persons, has been given with much fairness and ability by the editor, in Nos. XXI. p. 138, XXIV. p. 442, XXIX. p. 181, &c. of this Journal, and in Nos. 15 and 16, Vol. I. of the Cholera Gazette. There is so little variety in their reports of dissections, that there can be no doubt of the appearances having been faithfully narrated.

The indications of inflammation were much modified by the period of the disease at which death ensued. If it happened in a few hours after the invasion, the alimentary mucous membrane was left in a state not differing materially from the normal one; if at a longer period, there was an evident redness, and at a still more distant period, the inflammatory condition was most unequivocally marked, under its ordinary characters of redness and infiltration of blood in the mucous tissue of the stomach, of the small intestines, and of the large. In some cases this inflammation was so excessive, as to amount to mortification.

The idea of inflammation in the first state has been rejected by some, especially by M. Gendrin,|| who defines it as a phlegmorrhagia, meaning thereby simply a secretory irritation. The act of the cholera secretion he considers to be accomplished by the numerous follicles of the digestive tube. These follicles, according to him, dilate progressively, and augment in volume, which is announced by the precursory diarrhœa in the greater number of cases. But whenever the secretion becomes so abundant as to detract rapidly from the blood a large quantity of its elements, the cholera symptoms explode. One who has had the serous diarrhœa mildly for some days, finds the waste supplied by the circulation of the blood; his system is therefore much less disturbed than it is in another who has lost much less, but in whom the discharge has supervened suddenly, and consequently where the power of repair from the circulation does not go on with equal rapidity. The remark is almost universal, that the cases of cholera terminating most rapidly in death, are those where there has

\* *Monographie du Cholera Morbus*. Paris, 1832.

† *Traité, &c. du Cholera Morbus*. Paris, 1832.

‡ *Cholera Morbus, Epidemique*. Paris, 1832.

§ *Du Cholera Morbus in Russie*. Paris, 1832.

|| P. 137.



been little or no serous discharge externally, for it is accumulated in such a flood almost at once in the alimentary canal, that the muscular energy of the latter, like that of every other part, is too much prostrated to perform its peristaltic movements; it is hence not uncommon to see the digestive canal in a state of relaxation, which bears an analogy to no other disease scarcely, except cases of protracted and extreme ascites.

The following from M. Gendrin will probably explain more satisfactorily his ideas of the early pathological condition of the alimentary tube. "The intestinal secretion by the follicles, being augmented, is necessarily attended by an active fluxion towards them, which may either precede or follow their excitement. This fluxion is necessarily accompanied with turgescence of the secretory organs, as in other cases of augmented secretion. From this turgescence or orgasm to inflammation, there is but little distance. The secretory orgasm is a minor inflammation, which explains the facility with which intestinal inflammations, and especially the follicular, are developed in the re action of cholera, when the circulation being augmented, it becomes a general excitant for all the parts." From this it will be seen, that though M. Gendrin disavows inflammation, except in the stage of re action, yet he admits a condition closely allied to it. For my own part, considering the rapid secretion from the alimentary canal of serum and of fibrin, and knowing that this act itself is calculated, as in pleuritis, to relieve the inflammatory congestion of the vessels, I have but little difficulty in viewing cholera as a decided inflammation from the beginning. How often is it in recent peritonitis or pericarditis, or in fact any other serous inflammation, that the serous tissue itself scarcely presents in its texture, or by the accumulation of blood in it, any trace of inflammatory action, so that if the fibrinous layer formed upon it is removed, the membrane appears healthy, and yet the plainest possible evidence exists of inflammation by the tenor of the symptoms preceding death, and by the accumulation of fibrin and serum in the cavity. By parity of reasoning and of observation, the inflammatory action disappears, on death, from the digestive mucous membrane, though we see its unequivocal evidence in large collections of serum, and in a fibrinous lining adhering to its surface, with a tenacity quite equal to that with which a similar lining adheres in croup or pleuritis.\* If the digestive canal could be kept stationary, so as to allow the factitious membrane the same chances of adhesion, and of increasing its thickness,

\* See Cases II. and III.



which exist in fixed cavities, it would probably exceed what is known in any other disease; but the peristaltic motion being violent, the membrane is detached almost as soon as formed, and being broken up in the long route that it has to traverse, its membranous character is destroyed, it is ground into fine pieces, the mixture of which with serum constitutes the cholera fluid.

To revert now to the fundamental doctrines of this paper.\* In regard to the existence of a layer of coagulated lymph on the surface of the digestive canal, in corroboration of my own observations, we have the testimony of Corbyn, for the same being found in the disease as it appeared in India, and of Gerardin and Gaimard, of a similar occurrence in that of Russia. The latter indeed states that the sanguineous afflux, or the active congestion directed upon the intestinal tube, appears to be concentrated chiefly upon the mucous coat of the small intestine. This membrane is swollen, spongy, impregnated with a white fluid; the exudation of which it is the seat, at first clear and aqueous, takes a more consistent aspect, and forms a lining to it of a flocculent or gelatinous layer sufficiently like a *pseudo-membrane*. They add, indeed, what I have never seen, that this layer is sometimes traversed by very fine capillary vessels, which are remarked principally at the points which adhere the most strongly to the membrane of the intestine. There could not be a better evidence than this of the analogy of this layer of fibrine, with that of pleurisy or pericarditis, the uniform tendency of which is to become organized by vessels shooting into it. In one specimen, which fell under my notice, the adhesion was so strong between the jejunum and this factitious membrane,† that I regret not having injected minutely the part, with the view to test this very question. The case, it will be observed, terminated in eight hours from the invasion, and was attended with a strong inflammatory tinge. The mucous membrane here on being put into spirit of wine, and suspended as a preparation, presented that turgescence in its structure and villi, and apparent impregnation with a white liquor just spoken of. Many of the writers on cholera, speak of an inspissated layer on the surface of the digestive tube, but it appears most commonly to have been mistaken for mucus, while unfortunately such as have had a distinct comprehension of its character, have not brought it forward with that force which so main a feature of disease merits. A feature which, when once recognised, would settle determinately the grade of this malady.

\* See p. 59.

† See Case III.



Another character which I have attributed to Asiatic cholera, is a *copious vesicular eruption*, entirely distinct from the tumefaction of villi, muciparous glands or follicles, and pervading the whole canal. This eruption has been seen by me in four cases, and I would suggest might possibly have been seen in others, had my familiarity with its appearance and means of detection been accurate, from the beginning. The form of this eruption\* is that of a spherical vesicle, commonly from one-eightieth to one-hundreth of an inch in diameter, with parietes transparent and empty in the dried state, in which alone I have seen it for the reason, that when its parietes are impregnated with a liquid, as water, alcohol, turpentine or varnish, they are so transparent, that they cease to reflect light in an appreciable manner. This vesicle lies upon the surface of what I have designated the superficial venous layer of the digestive canal, perfectly distinct from the follicles, that is to say, having for its base the venous partition between the follicles. In the colon, where the edges of the latter are on the same plane, the vesicles repose as distinctly on the surface of the mucous membrane as marbles would on a table, and very much after the same manner, one point alone of their circumference resting on the mucous membrane. If it should be permitted me to form a conjecture of the nature of their parietes, I would say that they consisted of the cuticle of the digestive canal. They no doubt contain a fluid in the recent state; but what its character is I have yet to learn, from the difficulty of distinguishing the vesicles themselves at that period.

These vesicles in some parts of the jejunum are as thick as they can possibly stand, which, according to the estimate of their size just given, would be at the rate of some thousands to an inch square, actually six thousand four hundred; but as I have never seen an entire inch square covered in this way, an erroneous impression might be conveyed by stating it as the rule. These vesicles exhibit a decided preference to the roots of the *valvulæ conniventes*, and are there closely disseminated with scarcely an interval between them; but they decrease in frequency towards the summits of the *valvulæ*. Their entire number and frequency decline greatly in the ileum and colon, the individual vesicles being much insulated, so as to leave wide spaces between them and others. Case VIII. exhibited these vesicles to a remarkable degree in the jejunum.

In Case XII. I observed, besides the vesicles, which were as distinct

\* Cases I. V. VIII. XII.



from each other as marbles on the same ground, that some were clustered. In the stomach I found a single bunch resembling a bunch of grapes standing on its base; and in the ileum and colon I found clusters resembling bunches of grapes reposing on their sides. Such clusters had for their nidus and for connecting them together, a deposite of coagulating lymph.

An eruption upon the alimentary mucous membrane has been perceived before, but it appears to me, as far as I can judge from the description, of characters very distinct from what I have delineated. Thus Professor WAGNER, of Vienna, besides granulations of the size of a pepper—corn or pea, on the surface of the mouth and pharynx containing pus, found a similar appearance of the size of half a pea on the stomach, surrounded by a spot of redness. And having verified the observation on the stomach, found them more frequently in the whole track of the small intestines. They were considered as mucous follicles altered by inflammatory action.\*

The pathological appearance which corresponds more than any other with what I have described, is that announced by MM. SERRES and NONAT, in the French Lancet for April, 1832, under the name of *Psorenterie*. According to them, it is so little apparent in some subjects, that it would not be perceived without much attention, but very apparent in others; it is found to occupy one-half or two-thirds of the intestinal canal, beginning at the end of the ileum, where it is always larger and more approximated. On one occasion it was seen on the duodenum, where it had gained the free margin of the valvulæ conniventes.

The corpuscles of the psorenteric eruption vary in volume from that of a grain of millet or hemp, to the half or quarter of that of a pin's head. Their colour differs a little; but their structure is always the same. They are of a grayish-white in the largest, and of a light rose or flesh colour in the smallest. When examined by being cut open with a sharp knife, they seem to be formed of a simple tissue. From this trial it results that when compressed with the nail, they leave a slight but flattened elevation at the points they occupy. They are depressed almost as much by the nail alone, without previous incision, and under no circumstances do they discharge a liquid; hence it is inferred that they are not engorged follicles. They are formed both in the early and in the advanced dates of cholera,

\* Medical Magazine, No. IV. Observations on Cholera. By Charles T. Jackson, M. D.



and exist, according to M. Bouillaud, at the rate of five times in forty-five.\*

In the north of Europe this eruption has been considered as composed of tuberculous granulations, connected with the lymphatic system, as they are easily filled from it, but not from the blood-vessels.† M. Bouillaud, on the contrary, (p. 256,) considers them as the glands of Brunner in a state of development, and says, that to one who has seen them in their confluent form, the estimate of Mr. Lelut in fixing the whole number of mucous follicles in the digestive canal at forty-two thousand, will not appear excessive. He says also, that they vary in size from that of a small millet to a large hemp seed; that their form is rounded and granular, and that many present a black point at their centre. There are some where the latter trait is absent. MM. Serres and Nonat consider them as papillæ in a state of tumefaction; but M. Bouillaud says, that he is sure that an immense majority of them are developed follicles, though he would not deny the existence of some where there is a deficiency of the black point in the centre, which is the indication of the mouth of a follicle. The colour of the follicular granulations is commonly of a grayish-white, sometimes red; and their base is very often the seat of an injection of variable redness.‡

A careful perusal of the above description of the psorentery of MM. Serres and Nonat, will satisfy the reader that the eruption which they describe, is different in many particulars from the one announced by myself, that the latter consists of vesicles forming entire spheres, hollow, and much smaller in diameter; and that it may be considered as a specific eruption of cholera heretofore unnoticed. Appended also as it is to the surface of the *superficial venous layer*, it is never seen in places where the latter has been lost in the progress of the complaint; whereas, the psorentery of M. Serres is seen under all circumstances of morbid change noticed by its describers.

The precise state of the *venous* system of the digestive canal is among all the traits of cholera, that which will most fully account for its destructiveness to human life. The minute anatomy of this system has been explained at page 60 and the following, and we now resume the general fact, that the mucous membrane is formed by an intertexture of these veins, resembling a net, or more exactly a plate

\* *Rochoux sur le Cholera Morbus*, in *Archives Générales de Medecine*, Vol. XXX. p. 333. Paris, 1832.

† Gerardin et Gaimard, second edit. p. 139.

‡ Loc. cit. p. 257.



of metal pierced with holes; these holes being the follicles, whose aggregate number is forty-six millions at least, and probably much more. When cholera has lasted for a few days, this venous intertexture, which I have denominated for reasons stated, the *superficial venous layer*, is exfoliated from the stomach, and large intestines especially, but also in a degree from the small. The first case in which I became certified of this fact, was VIII. where, upon making a minute injection of arteries and veins, and drying it, not a trace of the superficial venous layer was left in the pyloric half of the stomach, it being the portion injected; the other half, it will be seen from the report, was also disorganized, and may have been in the same condition; but as it was not injected, this is a mere inference. The ileo-colic intestinal region was in the same state generally, except that a small patch of the superficial venous layer was left near the valve, and which was in the act of being detached from the colon; in the dried state it resembled cuticle; had received very partially the injecting material of the ileo-colic vein; had its follicles open, and could be raised up easily with the point of a knife.

This observation once made, was easily extended by the process of minute injection and drying, to other cases. I found the cul-de-sac of the stomach exhibiting it in Case V. and the ileum and colon also, there not being a single vestige of the superficial venous layer left in the latter. Case XII. which exhibits so fully the follicular arrangement of the pyloric end of the stomach, had suffered from the exfoliation of its mucous membrane in the left half. The exfoliation in this case seemed to be confined to the stomach, as sections of the small and large intestines became admirable subjects for studying the villi and follicles as seen in the plates.

The similitude in the recent appearances of the digestive mucous membrane of Case IX. to Case VIII. leaves me at the present day with the rational belief, that if it had likewise been tried by the same processes of injection and preparation, identical lesions would have been perceived. But an ignorance at the time of the value of the fact I was observing, prevented me from pursuing the inquiry. It has been, indeed, only after numerous examinations of my preparations for weeks in succession, that I have been brought to appreciate their evidence as stated in this paper. The disease having in the mean time ceased, it must devolve upon others to confirm and to complete my observations, wherever the opportunity is presented. As an incentive I will here remark, that any one who studies the pathology of cholera without the aid of minute injections successfully thrown in, has a veil over his eyes, and understanding too,



which will prevent him from recognising the most important feature in the whole series of anatomical facts belonging to it. For this feature I verily believe to be the sloughing of the *superficial venous layer* of the digestive mucous membrane. When this process takes place to any extent, we may readily believe that death is the inevitable consequence, from the great importance of the part lost.

Let us endeavour to form some estimate of the physiological influence of this process in its preparatory stages, and in its actual accomplishment. The most undeniable fact of cholera, is a rapid fluxion of the blood to the whole digestive mucous membrane, with a diminishing of its own volume by large losses at the part, as the immense serous discharges prove; but here is an action extending over an area of at least two thousand square inches, I say the size of a small breakfast table. The copious secretion of fibrine proves that this action is not a simple acceleration of the circulation, but an actual inflammation; this inflammation having reached a certain degree, and a certain duration, is followed by sloughing of the membrane itself, that is to say, the part where the most important actions of life occur, to wit, the *superficial venous layer*. Under such overwhelming circumstances of disease, can we wonder if the exterior symptoms of inflammation do not exist, that the inflammation instead of acting as a stimulus, as in common diseases, so as to diffuse the blood more rapidly towards the periphery of the body, increasing the heat of the skin and the volume of the arteries in the limbs &c. should on the contrary prostrate every action of the system, except on the surface where itself prevails. “The rapid and excessive evacuations of cholera, produce as it respects the volume and force of the circulation, precisely the same results as profuse hæmorrhage; and between a cholera patient in collapse, and one exhausted by hæmorrhage, many points of resemblance prevail.”\* In viewing the relation of a surface so vascular and so extensive with the entire circulation, its proportion is so large, that even a priori, the fact of universal fluxion in it being stated, we might conjecture the result in terms not very different from the actual event.

As it is not the design of this paper to enter on the whole question of cholera, I shall not engage in discussing the influence of the loss of serum upon the blood itself, and secondarily upon the state of all the organs supplied by the latter. The paper last quoted gives so satisfactory an exposition of this division of the pathological appear-

\* Jackson on Malignant Cholera, American Journal of the Medical Sciences, Vol. XII. p. 114.



ances, that a recapitulation of it in this journal would be superfluous at present.

I doubt much whether any patient has ever lived long enough for this sloughing to occur over the whole digestive canal. Those cases where death follows in a few hours have probably a tendency to such a condition, but their very severity brings them to a termination before it can be realized; hence happens the remarkable testimony, that they exhibit the fewest and the least distinct traces of disease. That apparent paradox may be explained now, by the blood receding at death from *the superficial venous texture*: a phenomenon common, as I have remarked before, to all recent inflammations.

The majority of the cases of cholera probably suffer extreme violence only upon particular sections of the digestive mucous membrane; some have it in the stomach chiefly, as Case XII. others in the colon also, as Cases V. and VIII., others may have it chiefly in the small intestines. But in all cases some degree of irritation extends along the whole canal; the resistance of an individual to the disease will therefore depend mainly, upon the quantity of surface vehemently attacked. Upon this principle I can readily understand that individuals may recover where portions of the superficial venous layer of the stomach or intestines have been thrown off.

When a part is thus denuded, many mouths of veins are left patulous, as seen in my preparations, and pour out serum with small quantities of blood in some cases. The secretion, however, finally becomes purulent, as in a blister after the cuticle is removed; it is generally foetid, and may be distinguished very readily in the evacuations from the sero-fibrinous ones which preceded it. Case VIII. was a strong illustration of this fact.

To what extent a mucous membrane when sloughed off may be repaired, is a point yet to be ascertained in this and other diseases, I believe myself in the possibility of its regeneration, and am not singular in the opinion.\* It is probably the reparation of this injury which gives rise to what are called the diseases of reäction in cholera, many of which resemble strongly gastro-enteritic fever.

It remains for further researches to determine the uniformity of the vesicular eruption of cholera, as I have described it; and also to ascertain whether this is the specific disease which gives rise to so terrible a train of symptoms; whether cholera is in fact a sort of inverted small-pox, the location of which makes its ravages so fatal: and which,

\* See Boyer's Anatomy, Article Stomach.



like the genuine variola, may be divided into the discreet and confluent kind, and has its symptoms always modified by the extent of the surface attacked. The epidemic character of cholera, its independence of all meteorological conditions of the atmosphere, and moreover its subjecting an entire community to its influence under some symptom or other, wherever it appears for the first time; show analogies with exanthematous diseases, which go far in my mind to establish the opinion, that cholera is really what those vesicles tend to show, an internal exanthema itself.

#### EXPLANATION OF PLATES.

##### *PLATE I.*

*Fig. 1.* Magnified section of jejunum, to show the convoluted arrangement of the villi, which resembles the convolutions of the cerebrum. This is taken from cholera case No. 8; but the same appearance has been verified on healthy intestines.

*Fig. 2.* Magnified section of ileum from lower part; it exhibits the conical form of the villi there; and the follicles between them, as thick as they can be placed, filling all the intervals of the villi. This piece is from a man who died from a wound of the thorax, with no intestinal disease.

*Fig. 3.* Magnified section of mucous coat, or superficial venous layer of stomach from the pyloric half, exhibiting its follicles of various sizes, and closely disseminated. Taken from cholera case No. 12.

*Fig. 4.* Magnified section; taken from left extremity of stomach of same patient. The mucous coat has here exfoliated, whereby the submucous vessels, they having been injected, are exposed, and have their orifices gaping upon the cavity of the stomach.

*Fig. 5.* Magnified section of mucous coat of colon from near the ileo-cæcal valve; it exhibits finely the superficial venous layer, and how the mucous coat is formed almost wholly by it, the follicles being in the meshes of the veins. Being taken from cholera case No. 12, a solitary vesicle A. broken on the top, is seen to lie on its surface like a marble on a board.

*Fig. 6.* Magnified section of colon from near ileo-cæcal valve, exhibiting the loss of the mucous membrane by exfoliation; the whole of the follicles have consequently disappeared, and the vessels are seen beneath injected. From cholera case No. 5.

*Fig. 7.* Magnified section from pyloric end of stomach in cholera case No. 8. The mucous coat, or superficial venous layer, being also exfoliated in this case, the follicles have disappeared, and the vessels beneath having been injected, are seen very distinctly, especially the veins, which have their orifices gaping into the cavity of the stomach.

*Fig. 8.* Magnified section of jejunum from cholera case No. 8. It exhibits to great advantage the cholera vesicles of various sizes, and their invariable spherical shape.

##### *PLATE II.*

Section of jejunum lined by a layer A. of coagulating lymph. It was taken from cholera case No. 3, and is now in the Anatomical Cabinet.



ART. II. *Observations on the Medicinal Properties of the Veratrum Viride*. By CHARLES OSGOOD, M. D. of Providence, Rhode Island.

THE following remarks on the *Veratrum viride* or green hellebore, are submitted to the profession with the hope of turning their attention to an article of medicine hitherto but little known. Some of the popular names of this plant are American hellebore, swamp hellebore, Indian poke, Indian Uncas, poke weed, bear weed, itch weed, tickle weed. Beside these, there are others of a more local character, and of those already enumerated, there are several which are equally applied to other plants. It is indigenous—found in almost every part of the United States, the product of swamps and wet meadows—top annual, and root perennial. It appears early in the spring, and is one of the first plants which attract our notice at the commencement of returning vegetation. It is often found associated with the *Ictodes foetidus*, particularly on the margin of small streams in low boggy lands. Both require the same soil, and grow with equal luxuriance. Its flowering season in the northern and middle states is in June; in the southern as early as May. This plant in its botanical characters is closely allied to the *Veratrum album* or white hellebore, a distinguished medicinal plant found in most countries of Europe. Its botanical description is fully given in most of our works upon that subject. The *root*, the part employed in medicine, is bulbous, the upper portion tunicated like an onion, the lower half solid, sending forth a large number of strong, whitish radicles. This root has a strong acrimonious taste, leaving its pungency in the mouth and fauces a considerable time after being masticated. The decoction, though intensely bitter, is less acrimonious than the root in substance. The proper time for collecting this, as well as most other medicinal roots, is in the fall of the year, after the decay of the top. Its medicinal properties are then most active, and appear to be the most permanent. When kept *over* more than one season, its active properties become impaired; it should therefore be gathered every year, and preserved in a dry place.

The early history of this plant is involved in much obscurity. Our accounts of its medicinal use by the aborigines are altogether vague and unsatisfactory. It appears to have been known to them rather as a poison than a medicine. Its use in the election of their chiefs, is noticed by JOSELIN, an early visiter to this country, who calls it “white hellebore.” According to this writer, that individual whose



stomach was least susceptible to its deleterious effects, was regarded as the "strongest of the party, and entitled to command the rest." It has been long and extensively used for the destruction of vermin and birds. Among many of the farmers of New England, it still continues a common practice to protect their corn fields from the havoc of birds, by scattering the ground with kernels of corn saturated in a strong infusion of the root; this is done just as the corn is springing from the ground, it being then most liable to depredations from the feathered tribe. With many it is customary to subject their seed corn to the same process before planting. A short time after partaking of corn thus prepared, muscular action becomes so much paralyzed as to prevent either flying or walking, and in this torpid state they are readily taken and killed. Unless caught while thus narcotized, many of them recover and fly away.

The analogy in external appearance between this species and the *Veratrum album* of Europe, was the circumstance which first led to the investigation of its medicinal properties. But notwithstanding this analogy in botanical affinities, there is a decided difference in their medicinal operations—the *album* being hydragogue cathartic; whereas, the *viride* has not the slightest laxative effect. So far as I am acquainted, this plant has never been the subject of a thorough analysis. It is commonly said to contain the proximate active principle *veratrine* as the seat of its medicinal properties. This opinion, however, seems to be entirely gratuitous, being drawn from its analogy in external appearance with the European species, rather than from actual investigation. If we consult analogy in medicinal properties, instead of external appearance, our conclusions will be more rationally founded. This is, indeed, the only analogy that can give much weight to an opinion upon this point; and so far as this goes, is in decided opposition to the hypothesis, that the active principle of this species is the same as of the European—that, as has been before observed, being hydragogue cathartic, while this possesses no cathartic powers. It has been suggested, that this diversity in medicinal effects might be explained on the supposition that *veratrine*, though the proximate active principle did not exist in the plant in the form of a bi-gallate, as in the European species—the diversity in medicinal properties warranting the belief that the salt was different, though the base might be the same. This opinion, though at first view plausible, is neither supported by analogy, nor in accordance with the known laws of vegetable chemistry. Although solubility and activity are often affected by a change of acid simply, I have no knowledge that vegetable chemistry furnishes us with any instance



of a change in the medicinal properties of the proximate active principles of a plant, by varying the acid with which the proximate principles or base may be combined. Among many instances which may be adduced where this integrity in medicinal effect is preserved in spite of a change of acid, the sulphate and acetate of quinine, sulphate and tartrate of sanguinarine, sulphate and acetate of morphine, are familiar examples. I have been thus particular on this point, as the general impression of identity in active principle with the European species has greatly interfered with the investigation this plant deserves, and would otherwise have received.

Since the above was written, I have endeavoured to test the correctness of my conclusions by chemical analysis. Although my experiments were not sufficiently extensive to accomplish this object, still I would briefly detail the process adopted. The preparation from which I attempted to obtain the proximate active principle was the infusion, prepared by adding boiling water to the finely bruised root, and allowing it to macerate twenty-four hours, the quantity of root being such as to saturate the water. After filtering this infusion, a precipitate of a dull white colour was thrown down by ammonia. This precipitate, after being repeatedly washed, was boiled for about five minutes in alcohol, with a small quantity of animal charcoal, and filtered while hot. On cooling, a small portion was again thrown down, the alcohol still holding the greater part in solution, which was afterwards obtained by evaporation. This substance, after being thus subjected to the action of alcohol and animal charcoal, was of a clear white colour, pulverulent, inodorous, and very acrid, producing a peculiar stinging sensation when taken upon the tongue. Whether this was the principle in which the medicinal properties of the plant reside, is a point I am unable to determine, being deprived of an opportunity for extending my investigations, by inadvertently losing the greater part of the specimen obtained. Not being aware of its extreme volatility, the filter containing it was placed for the purpose of drying in a temperature which appeared to be but little higher than that of the body, at the extent I should think it could not have exceeded 120° Fahr. At this temperature most of it volatilized, and was lost.

Since the above experiments, I have had no opportunity for repeating the process.\* The *medicinal operations* of this plant have been variously estimated. In the United States Dispensatory by Drs.

\* It is my intention to do this at some future time, and if successful, will forward the result.



WOOD and BACHE, it is represented as agreeing in its effects with *Veratrum album*, which seems to be the most common opinion. From the very limited extent to which it has been used as a medicine, but few facts relative to its medicinal properties have come before the profession. Among the causes of this limited use, the common prejudice against the medicinal products of our own country has doubtless had an influence—a prejudice which, in this instance, has the character of inconsistency, so far as prevails the impression of its identity with the European species. Our own medicinal articles can never receive a due share of attention, so long as they have to encounter *our own* prepossessions against them, and in favour of those of a trans-atlantic origin. Professor TULLY,\* of the medical department of Yale College, (whose extensive use of this article well qualifies him to judge of its medicinal properties, and justly to appreciate its value as a remedial agent,) is of the opinion, that as an article of medicine, it ought entirely to supercede, not only the other species of the genus, but also the *Colchicum autumnale*. On many accounts it is certainly far less objectionable. In its general deobstruent effects it appears to be similar to its congener, the *Veratrum album*, as well as to the *colchicum*. But as possessing fewer of their objectionable features, and being equally efficient as a medicine, it should have the precedence in practice; it is not liable to the same uncertainty in its operation; it does not produce uncontrollable purging in one case in doses which have little or no effect in another; it does not leave the alvine canal in an irritable condition. On the contrary, it operates with as much certainty as any article in the *materia medica*; is never cathartic, and always leaves the bowels in a good condition. It requires but a moderate degree of attention to render the operation of the *Veratrum viride* perfectly safe. It should, therefore, on this account, take the precedence of an article possessing no superiority in medicinal powers, whose operation is not within the controul of vigilance and caution.

\* An apology is due Dr. Tully for the liberty I have taken in quoting his authority. Many of the leading principles which form the basis of this article, were derived from his public instruction, and while acknowledging myself responsible for its errors, it is but justice to say, that much of whatever merit it may possess, is the result of his discriminating research and extensive observation. Few men in our own country have more assiduously studied the character of our indigenous articles of medicine, or prosecuted this study with greater success. The publication of his lectures on the *materia medica* would be a boon to the profession, which, it is hoped may, ere long, be realized.



I am aware there is some diversity of opinion respecting the safety of the colchicum, as well as of the *Veratrum album*. It is occasionally employed for a length of time without manifesting any distressing or dangerous symptoms. But the confidence thus inspired, is too often interrupted by the occurrence of some unfortunate case. I have met with but few of my professional brethren who, after an extensive use of this article, were not led to consider it unsafe, as occasionally accumulating upon the system, and producing hypercatharsis and prostration, which no medication could relieve.

There is still another reason why the *Veratrum viride* is preferable—being indigenous, it can always be obtained in its recent state, and therefore of uniform activity, while the European species being often collected at improper seasons, and imported in the form of powder, is liable to much variation in strength, and is occasionally inert. Professor Tully, whose authority I have before quoted, thus enumerates the operative effects of this plant. 1st. Deobstruent or alterative. 2d. Acrid narcotic. 3d. Emetic. 4th. Epispastic. 5th. Errhine. In doses as large as the stomach will bear without nausea, its deobstruent operation is manifested by a gradual and general change in the secernent and absorbent system, correcting vitiated secretions, and promoting those which are deficient. As secondary or subordinate parts of its deobstruent operation, it is *resolvent*, producing resolution of inflammations by internal use; *antipsoraic*, having the power of removing certain cutaneous affections; *cholegogue*, producing an increase in the biliary secretion; *expectorant*, promoting the excretion of fluids from the bronchial membrane; *diuretic*, causing a moderate increase in the secretion of urine; *discutient*, possessing the power of dispersing tumours from local application; and finally, *sialogogue*, producing a decided increase in the secretion of the salivary glands, both from topical and internal use. This latter operation is much more prominent in some constitutions than others. It is usually slight, and of little consequence.\* It does not appear to be directly *diaphoretic*, though diaphoresis may be produced by virtue of its emetic operation; the secretion of the skin being more of a clammy, adhesive nature than is usually caused by the simple emetics. I am inclined to think that it is *emmenagogue*, but have not sufficiently

\* Dr. Peabody, of Norwich, Connecticut, informs me, that in one instance, he found the continued internal use of this medicine produce as powerful salivation as often witnessed from the use of mercury. This, however, passed off directly with the discontinuance of the medicine, leaving no unpleasant effects.



attended to this operation to arrive at any very satisfactory conclusions. Some of my medical friends, who have made considerable use of this article, are of the opinion that it possesses emmenagogue properties. Further observation is still requisite fully to establish its effect upon this secretion. Of the different operative effects of this medicine, its deobstruent or alterative is the most important. To obtain this operation fully, the nearer the strength of the circulating system approaches a healthy standard the better. If there be phlogistic action, it is necessary to precede its use by bleeding or refrigerants; if debility, this should be removed by tonics, and a supporting regimen. Its narcotic effects are very prominent, and when the system is brought fully under its influence, are manifested by faintness, somnolency, dimness of sight, dilatation of the pupils, vertigo, head-ache, impaired muscular action, hiccough, cold clammy sweat, small, unfrequent and compressible pulse. Its influence upon the circulating system is very decided. By the exhibition of full doses, I have frequently known the pulse, when ranging from 75 to 80 in the minute, reduced to 35 or 40 in the course of a few hours. Its effect upon the strength of the pulse is as great as upon its frequency. For counteracting its ultimate narcotic effects when carried to an undue extent, I have invariably succeeded with small doses of laudanum and brandy, often repeated; camphor and ammonia are valuable adjuvants, but far inferior to opium and brandy. It is usually emetic in doses of from four to six grains of the substance; one to two fluid drachms of the tincture, or one to two grains of the extract, requiring a greater length of time to produce vomiting than most other emetics, excepting those of the deobstruent kind. The larger the dose, the more speedily is the vomiting produced. For the mere purposes of an emetic, however, this article can never be advantageously employed, on account of its acrid narcotic effects, excepting perhaps in those cases which may indicate a narcotic operation in conjunction with the emetic. As an epispastic, (used as a generic term, including the various grades of irritation, vesication, rubefaction, &c.) it is sometimes employed with advantage, though for this operation it is comparatively of minor importance; other articles being equally efficient and more generally at hand. Its errhine powers, (if this be an operation distinct from the latter, and I am inclined to think it is,) are produced either by the fine powder of the root, or the extract. When snuffed into the nose, it produces long continued and sometimes violent sternutation. As illustrative both of the medicinal powers of this article, and its activity in the form of extract, I will briefly detail its effects, as produced on myself and another indivi-



dual, a member of the profession, whose experiments were at my request, and in my presence.\*

At 12 o'clock, M. I took two grains of the finely pulverized extract. At 1 began to experience a slight sense of uneasiness at the stomach, but not amounting to nausea. This uneasiness at the stomach, though so slight as to be attended with very little inconvenience, continued till about half past 1, when vomiting commenced. The contents of the stomach were thrown off without nausea, but with a sense of rising in the œsophagus, which perhaps might be compared to the rumination of animals. Judging from my sensations at the time, should suppose the muscular fibres of the stomach contracted gradually and steadily upon its contents, until they were expelled, the diaphragm and abdominal muscles remaining entirely inactive. After the vomiting had continued a considerable length of time, it appeared to be more the effect of spasmodic action, and was attended with chills and coldness of the whole body, but moisture of the skin. At the expiration of about an hour vomiting ceased, and was followed by dimness of sight, dilatation of the pupils, vertigo, faintness and somnolency, pulse at the wrist 40 in the minute, and scarcely perceptible. I then took 25 m laudanum, and fell asleep. After the lapse of an hour, awoke with a continuance of the same symptoms, together with a dull pain in the epigastrium, and immediately repeated the laudanum. But finding no relief, the dimness of sight increasing, and on motion of the body, or turning the head, amounting almost to blindness, a sensation of stiffness in the voluntary muscles supervening, particularly the temporal and extensors of the head, together with considerable general prostration, the dose of laudanum was doubled. This produced a partial abatement of the symptoms, and after another similar interval was repeated, with half a gill of brandy, which soon effected entire relief. In connexion with these symptoms, it should be observed that I am unusually susceptible to the operation both of narcotics and emetics.

The individual to whom I have alluded as also taking this extract, may perhaps be considered as at the other extreme in the range of susceptibility. He commenced at 9 o'clock in the evening, with two grains. In ten or fifteen minutes, slight uneasiness at the stomach; at half past 9 took four grains more; at 10, a sensation of something like a ball rising in the œsophagus, which seemed to extend up as far

\* These experiments with the extract were made immediately after this preparation was formed, and before it had been at all used as a medicine. Its effects were noted down at the time, the substance of which is here given.



as the top of the sternum, as if propelled by a gradual tonic contraction of the stomach. At quarter past 10, vomiting commenced. This was attended with very little inconvenience at first, but after continuing a short time became more severe, the ejections consisting principally of bile; together with the vomiting, there was much ineffectual retching; almost constant hiccough; chilliness; dimness of sight; vertigo; inability to controul the voluntary muscles; distress at the stomach; pulse small and creeping, and 34 in a minute; the ordinary frequency ranging from 56 to 58. As these symptoms were becoming more aggravated, he took  $\mathfrak{z}$ ss. of laudanum, and went to bed scarcely able to walk. In ten or fifteen minutes the laudanum was repeated, which soon produced sleep. In the morning was apparently in better health than he had been for several months. At 7 the same morning, three grains more were taken; at 9 complained of a confused sensation in the head, and almost an entire loss of power of the gastrocnemii muscles. At 12 M. three grains more were taken, and at half past 12, all the muscles of the forearm were affected in the same manner. At 1 vomiting; pulse 40, and other symptoms essentially the same as the day before, excepting a less degree of chilliness. At half past 2, took 45  $\mathfrak{m}$  laudanum, and in the course of two hours the effects of the medicine entirely subsided, excepting the inability of using the gastrocnemii muscles. At 11 in the evening two grains more were taken, which, in about three quarters of an hour, produced vomiting like the other cases, but without any appreciable narcotic effect.

The freedom with which the extract was taken by this individual, was not in conformity with my request, as I had previously tested the effects of two grains upon myself. My wishes, however, were overruled in the confidence he had in his own powers of withstanding the effects of narcotic agents. He afterwards made experiments with this article in smaller doses, and at regular intervals. Doses of half a grain once in three hours, after being repeated three or four times, were followed by an uneasiness at the stomach, with the same paralyzed condition of the extensors of the feet. The dose was then diminished to a quarter of a grain, and continued three days at the same intervals. With these doses, muscular action was not so constantly interrupted, this effect occurring only after considerable exercise, as walking or jumping. By continuing this article three or four days in doses of one-eighth of a grain, once in three hours, it was followed by moderate diuresis. The same effect was also noticed in two other individuals, who experimented with it at the same time. This operation, however, does not appear sufficiently prominent for



the treatment of hydropic diseases. In no single instance in the experiments with this article upon myself and others, did it operate in the least as a cathartic; nor in my practice since, have I ever discovered in it any disposition to pass off by the bowels. Dr. JOHN WARE, of Boston, who experimented with it in the form of powder of the root, states that he administered it in thirty cases, and "in no instance was it very clear that purging was produced."\*

The pharmaceutic preparations of this plant are tincture, wine, extract, ointment, infusion, decoction and powder of the root. Of these, the tincture, wine, extract and ointment, are the most eligible forms, and for common medicinal purposes appear to be all that are requisite.

The tincture is prepared by adding the recent bruised root, ℥vj. to diluted alcohol, Oj. I was formerly in the habit of using ℥viij. to the pint, but this appears to be more than is necessary for saturation; medium dose from f. ℥ss. to f. ℥j. For the wine, recent bruised root, ℥vj.; white wine, ℥xiv.; officinal alcohol, ℥ij. The alcohol is necessary to prevent the preparation from becoming sour in warm weather; dose the same as of the tincture. In reference to the relative value of these two preparations, I do not know that any thing can be said in favour of the wine, which would not with equal truth apply to the tincture. In medicinal efficacy, there appears to be no appreciable difference. The extract is made simply by expressing the juice of the recent root, and inspissating in the sun. Thus prepared, it is hard and dry, of a grayish colour, and capable of being reduced to an impalpable powder. It requires a considerable quantity of the root to produce much of the extract. To obtain the juice it must be strongly bruised and subjected to strong pressure.

I was first induced to make this preparation for the purpose of having a form which would embody the greatest activity in the least bulk, and which would retain this activity a longer time than the crude root. In these particulars my expectations have been fully realized. Its activity is sufficiently attested in the experiments already detailed. Medium dose from one-fourth to one-half grain. I have rarely been able to exceed one-half of a grain, when repeated at intervals of three or four hours, without producing more or less narcosis and disturbance of the stomach. For what length of time this extract when excluded from the air will fully retain its medicinal activity I am unable to say; I now have in my possession a part of the first parcel which I prepared, and although about three years old, does not appear to have lost any of its strength. It has been

\* Vide Dr. Bigelow's *American Medical Botany*, Vol. II. Part 2d.



kept excluded from the air, though not from the light. I am inclined to think this extract will to a considerable extent supersede the other preparations. Its activity in this form, and the facility with which it may be administered, certainly favour this supposition. The extract by decoction is an inferior article, possessing but little medicinal power. Heat appears to injure it very materially. The ointment is the only preparation which has been made officinal in the Pharmacopœia of the United States. The following are its directions. "Take American hellebore in powder, ℥ij.; oil of lemons, 20 ℥; lard, ℥viiij. and mix them." For this purpose I have found the pulverized extract far preferable to the powder of the root. The following is the formula I have usually adopted. R. Extract in fine powder, ℥j.; oil of lemons, 3 ℥; simple cerate, ℥j.; to be thoroughly incorporated without heat. Cerate is preferable to lard, as the latter is melted by the warmth of the body. The greater activity and fineness of the powder of the extract make it more eligible than the powder of the root.

It is unnecessary fully to enter upon a therapeutic application of this article, or to enumerate all the diseases in which it has been employed. Among those, in which it stands foremost in our list of remedial agents, are the arthritic inflammations. In this class of diseases, it should be given in such doses as at first fall short of producing disturbance of the stomach, as one-third of a grain of the extract, or ℥ss. of the tincture, regularly repeated every three or four hours, and gradually increasing to the extent of producing narcosis or vomiting on the one hand, or resolution of the disease on the other. To ensure its best effects, opium in moderate quantities should be conjoined. A combination of the wine, with the tincture of opium, in the proportion of three parts of the former to one of the latter, cannot it is said be distinguished in its operation from the celebrated *Eau medicinale*, excepting by the catharsis which sometimes ensues from the use of the latter. This combination is much more efficient than the wine or tincture alone, producing less disturbance of the stomach, and can be employed in larger quantities without inconvenience from its narcotic effects. In *gout*, of the regular kind, this article manifests its best powers. It is the opinion of Dr. Tully that with proper management it will cure a majority of cases. It proves most successful in those constitutions which are not impaired by habits of gluttony and intemperance, at the same time it is much better adapted to broken down constitutions, than the colchicum or veratrum album, on account of the exhaustions these articles are liable to produce. If used in efficient doses, and perseveringly continued several days,



there are few cases but will be decidedly benefited, if not radically cured. It appears to be as well adapted to rheumatism as gout. In the treatment of that disease, both in its acute and chronic form, the article is well worthy the attention of the profession. There is no remedy in the materia medica within my knowledge, with the exception perhaps of the *actæa racemosa*, to which *acute rheumatism* more easily yields. In this disease it should also be combined with opium, for the purpose of relieving pain, and qualifying its effect upon the stomach. The amount of opium conjoined, should be graduated in some measure by the severity of the pain. Thus qualified, it should be administered at regular and short intervals, generally as often as every three hours, in such doses as at first fall short of producing nausea, and gradually increased. Thus administered, the system is kept under its steady and uniform influence. If the doses fall short of producing its specific effects upon the stomach and brain, or if administered so irregularly that the effects of one dose pass off before another is given, but little will be accomplished. In a common case of acute rheumatism, a cathartic of calomel should first be premised, unless the bowels are in a relaxed condition, or some other circumstance exists to contravene this practice. If the stomach is not in an irritable state, it is then best to commence with f. ʒj. of the tincture, in the combination recommended in gout, each dose to be increased 5 or 10 m, as the case may require, till some effect is produced. All local applications should be avoided, as in no way promoting the operation of internal means, and only liable to draw the disease from one part to another, where perhaps its presence is still more to be dreaded. The more acute the disease, the more erratic in its character, and the earlier in its progress, the more speedily does it yield to this course of medication. In *chronic rheumatism*, unattended with inflammation and swelling of the joints, it is less successful than in the acute, from its being a less controllable form of the disease. In this variety, however, it is probably more efficient than any other remedy of equal safety which we possess. It is often necessary to continue its use several days before much benefit is perceived. It is not very material whether it is exhibited in the form of tincture or extract. In acute rheumatism, where greater promptness is requisite, and small variations of dose often desirable, the tincture is most eligible; but in the chronic variety I have generally used the extract for the purpose of exhibiting in the form of pill, which in medium doses is not so liable to produce disturbance of the stomach. The following formula for a common rheumatic pill appears to be well adapted to a majority of cases. R. Ext. ver. vir.



grs. x.; opii, grs. v.; sapon. venet. grs. xv.; muc. gum. Arabic, q. s. M. To be divided into thirty pills. Dose, one pill to be repeated every three or four hours, as the urgency of the symptoms may require. After two or three repetitions, there is usually some disturbance of the stomach, and occasionally slight narcosis. In metastasis of rheumatism to internal organs, this remedy is equally valuable. In cases of transfer to the brain from external applications or other causes, it has been found highly beneficial, not only from its resolvent powers in arthritic inflammation, but from its narcotic properties in reducing the frequency and strength of the pulse. In a case of this kind which came within my observation about two years since, the pulse in a few hours was reduced in frequency from ninety-five to forty in a minute, with manifest relief of the existing delirium. I think it will also be found a valuable remedy in arthritic inflammation of the heart. So far as my knowledge of its use in this affection extends the result has been favourable.

I now have a case of this kind in a lady, thirty-five years of age, of arthritic diathesis, which arose from the translation of a chronic rheumatic affection of the right shoulder and arm, leaving this part comparatively well. In this case the tincture, administered in drachm doses, qualified by one-sixth laudanum, and repeated every three hours, has afforded prompt and decided relief. At the expiration of a few hours the disease began to yield, and as the existing nausea and narcosis then required some reduction in the medicine, it was afterwards repeated in smaller doses, and at intervals of four hours. Under this treatment the pulse became regular, and was reduced in frequency from ninety to fifty-five in the minute, with a corresponding diminution in its strength; the extreme anxiety and oppression in the præcordial region gradually abated, together with a general improvement in all the symptoms. At the expiration of two days, relief was almost entire. It is now about a week since this attack, and with the exception of occasional slight oppression in the region of the heart, there has been no recurrence of the disease. *Pneumonia*, with the exception of low typhoid cases, is a disease in which it has been advantageously employed. It appears to be best adapted to the variety *notha*, and has often succeeded in breaking up the disease when acute and fully formed. I have also used it in the variety *vera* with decided benefit. Most cases require a small quantity of opium in combination, and when administered with the view of breaking up the disease, it should be given in full doses, and repeated at short intervals. It is also one of our most valuable remedies for arresting the cough, which is sometimes a protracted sequel of this dis-



ease, and in consequence of the irritable condition in which severe cases are liable to leave the lungs. Protracted cases of *common and epidemic catarrh*, where other means have failed, not unfrequently yield to this article. I have occasionally combined the tincture of *Sanguinaria canadensis* with increased effect. These two remedies, with the camphorated tincture of opium in equal parts form a valuable compound, and may be given in doses of 50 or 60 m repeated at intervals of four or five hours. When the disease from neglect or other cause assumes the form of membranous phthisis, much less is to be expected from its use. In cases of this kind the *actæa racemosa* is a valuable adjuvant, and should enter largely into the combination. It has been successfully employed in simple *idiopathic cough*, and seems to be well adapted to the kind, or irritation on which this cough depends. I have often used it in this affection with entire relief, in doses short of the nauseating point, repeated four or five times in the twenty-four hours. In many cases much is gained by a judicious combination with other deobstruent narcotics, as *actæa*, *sanguinaria*, *digitalis*. In such combinations, there is usually less disturbance of the stomach, and less inconvenience from ultimate narcosis.

There is much testimony in favour of this article in the disease commonly called *asthma*, (*Dyspnœa exacerbans* of GOOD.) Dr. Tully thinks it a valuable remedy, and one which will often break up the disease. It should be given in drachm doses of the tincture, as the paroxysms are coming on and continued at short intervals. The paroxysms is generally relieved by the first dose, which should be conjoined with ʒss. of the tincture of opium. In *dysentery* it is also recommended by Dr. Tully. The non-malignant cases of this disease are those in which it is more particularly indicated. In cases of this kind, Dr. T. thinks its operation is analogous to that of mercury in removing the specific inflammation of the mucous membrane of the bowels, on which the existence of the disease depends.

*Dyspepsia* in some of its forms is relieved by this remedy. It is principally valuable by virtue of its chologogue powers, and is consequently best adapted to those cases attended with a deficient or vitiated secretion of bile. Its effect upon the mind in cases of depression of spirits, so frequently a symptom of the disease, is sometimes very prominent. I have often observed this effect after the system has been for a time under its influence, and the narcosis allowed to subside.

The full extent of its *discutient* powers are yet to be learned by further experience. In several cases of syphilitic enlargement of the inguinal glands, in which the common mercurial ointment produced



out a partial reduction of the swelling, I have speedily succeeded in completing the cure with this remedy. The cerate prepared as before directed, is best adapted to this purpose. An *antipsoraic*, it has been used in many cutaneous affections, with much authority in its favour. Of its value in this class of diseases I can say nothing from my own experience. Salt rheum, (var. of eczema impetigo of Good,) scalled head, (E. porrigo,) itch, (E. scabies,) are the forms of cutaneous diseases in which it has been more particularly recommended.

March, 1835.

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ART. III. *Reports of Cases Treated in the Surgical Wards of the Pennsylvania Hospital.* By T. S. KIRKBRIDE, M. D. Late Resident Physician.

CASE I. *Injury of the Head—Insensibility—Convulsions—Hæmorrhage from the Ears—Convulsive Motion of the Ball of the Eye—Double Vision—Entire Deafness.*—John H. æt. 27, hack driver, of rather intemperate habits, but generally enjoying good health, was brought to the hospital on the 6th of January, 1835, at 8, P. M. He was reported to have been sitting on the box of his carriage, and to have fallen from it without any obvious cause, about one hour before.

He had continued perfectly insensible after the accident, and when admitted presented the following symptoms:—Skin cool; pulse 88, feeble, irregular; respiration 26, slightly stertorous; pupils nearly natural, little sensibility to light; he moves his limbs when strong irritants are applied to them, and appears annoyed when his arms or legs are moved; he has not spoken, or opened his eyes since the accident. Blood has been discharged from his ears and nose; no wound of the scalp, or any fissure or depression discovered in the skull. Stimulating enemata. Sinapisms to the extremities; heat and frictions.

January 7th.—*Morning.* Reäction came on very slowly. At midnight he vomited his last dinner, consisting of undigested meat and vegetables, and has vomited once since. At 4, A. M. he asked for drink; he was restless, and roused with difficulty, and although he now asks a few questions, no replies can be obtained from him; his skin is hot; pulse 88, some strength; face flushed; pupils natural, conjunctiva slightly injected. V. S.  $\zeta$ xviii. R. Calomel, gr. x. statim. *Evening.* After the bleeding his pulse fell to 70, and be-



came weak; he rejected the calomel, and ol. tigii, gtt. j. q. 3 h. was directed to be taken, till his bowels were freely purged. At 2, P. M. he had a convulsion, and at four, another, each of which lasted about a minute. During these convulsions he had some frothing at the mouth, which was drawn slightly to the left side, and stertorous breathing; the eyes were observed to be rolled rapidly and repeatedly in different directions, as if from the convulsive action of all the muscles of the eye-ball; pupils a little dilated; skin warm. During the attacks of vomiting and in the convulsions, blood was discharged from the right ear. At 10, P. M. there was slight rigidity of the left arm; the left eye was drawn to the internal, and the right to the external canthus; no distortion of the face; convulsions occur about once every hour; pupils more dilated; pulse 94, irregular, intermits every sixth beat; respiration inclined to stertor; restlessness. R. Antim. tart. gr. ij.; Aquæ, ℥vj. ft. sol. S. ℥ss. every hour. Continue ice to head. Low diet.

8th. Had convulsions during the night, and one this morning; vomited after taking drink in the night, none since 6, A. M.; does not speak, except in demanding drink; his sensibility is good, but he evidently is unable to hear; pulse 88, slight irregularity, no intermission, soft; respiration more natural; pupils not dilated; dozes immediately after he is examined. R. Calomel, gr. x. to be followed by enemata. Take ℥x. of blood from the head by cups. Continue cold and sol. antim. tart.

9th. No convulsion since last report; he is generally dozing; expresses his wants; skin cool, except of head, which is hot; pupils natural; tongue dry, swollen, (from an injury received in his fall,) covered with a whitish coat; gums covered with mucus; pulse 60, soft, regular, rather weak. Continue treatment.

10th. More rational; entirely deaf, but answers written questions; slept well during the night, pulse 56, soft, regular; tongue moist, cleaning; bowels open four times since last evening.

13th. Intelligence good; pulse 60, regular; tongue moist; head rather warm; complains of "sounds in his head;" deafness continues.

17th. The patient states that for four days past, he has had double vision, the second object always appearing below the true one; to produce this, requires the object to be at a little distance, not less than five feet, and excepting at first, a strong light directed upon it, in a dull light, his vision was always better. Pulse keeps at 68, soft, regular; pupils natural, but the eye has rather a bright appearance. He has a purulent discharge from the right ear. He has been cupped and purged since last report.



24th. Complains of the sounds in his head as being very annoying and variable; no head-ache; sleeps well; objects at a little distance still appear double. Treatment continued.

*February 10th.*—Complains of weakness, and the sounds in his ears, which vary daily; his vision is natural; no pain in head; slight discharge from the right ear only; pulse 64, rather weak; tongue moist, pale; bowels kept open by occasional purges; has taken no other medicine for several days. His diet chicken water, and bread and tea.

*March 29th.*—No improvement in the patient's hearing; has slight pain in his head at times; in reading he holds his book at about double the usual distance; less "noise in the head" than at last report; no discharge from the ears; pulse 80, soft and regular; bowels regular; sleeps well; has been walking about for a couple of weeks past. During the last fortnight he has taken mass. ex. hydrarg. gr. iij. every night, and had moxa applied behind the ears.

*Observations.*—This case still remains in the hospital, (June 6th,) the patient enjoys good health, but is quite deaf; has slight head-ache at times, and is exceedingly annoyed by the different sounds in his head, which have been of almost every possible variety. The remedies administered have had little effect upon these symptoms. It is hardly possible to say what the precise injury has been, but effusion or fracture at the base of the brain or injury of its substance is most likely to have occurred.

Among the early and urgent symptoms which render the case peculiarly interesting, are the insensibility lasting eight hours after the accident; the discharges of blood from the ear before and during the convulsions, which came on the next afternoon, and recurred at intervals for twenty hours; the distortions of the features, and the peculiar motions of the ball of the eye during these convulsions, and the entire deafness, still continuing, five months after the injury was received. He had purulent discharge from the right ear after the 11th. On the 13th, seven days after the fall, he was first annoyed by the sounds in his head, and then compared them to others that were familiar to him, one day to the rumbling of a mill, the next to the whetting of a scythe, the ringing of bells, the croaking of frogs, &c. but of late he states that although still varying in their character, they are often such as do not in the least resemble any thing he ever heard or imagined. Double vision occurred about the same time, and continued to some extent till the 10th of February.

These reports embrace but a portion of the cases of injury of the head that have been received into the hospital since their commencement; the whole number is large, as nearly all the severe acci-



dents of the kind, happening to the poorer classes in the city, are within a short time brought to the gate, where they are received at all hours and treated at the expense of the institution. It will be observed that among the cases reported, there is no one in which the trephine was used; several such have occurred, however; and we have seen recoveries after its employment, but during the last two years, not a single one has resulted favourably in which that instrument was used.

Much authority might be adduced for and against the operation, and every one admits that cases do frequently occur, where no doubt can exist as to its propriety and utility, and where no surgeon should hesitate to perform it; but, when the indications are not positive, it is to be recollected that the operation is necessarily a source of irritation of no trifling character, and may be productive of worse consequences than the injury itself. It is also very possible that recoveries have taken place after the operation, where the same result *might* have occurred without it.

We believe that most of the surgeons of extensive practice in this city, do not place great confidence in the operation, an opinion which is fully confirmed by the experience of a large majority of modern European surgeons.

It may be doubted whether practical men will agree in sentiment with a writer in a late journal, who insists that “the trephine is an instrument on which great reliance can be placed in recent injuries and collections beneath the cranium,” and “the use of which ought to be extended beyond the line of its warmest advocates;” or that exploring the head by “frequent perforations” can often be justifiable. We suspect that recoveries are excessively rare every where, in those cases “where the whole upper surface of the cranium has been crushed, so that it was difficult to keep the rocking bones in juxta-position until the adhesive process commenced, and where more than one perforation was necessary to give vent to large clots of blood; and also where the dura mater has been lacerated, and considerable portions of cerebral matter had discharged.”

CASE II. *Compound Fracture of the Elbow Joint—Recovery with Ankylosis.*—William M. S. æt. 36, labourer, of intemperate habits, but robust, and generally enjoying good health, was admitted into the hospital on the 26th of October, 1834. In attempting to escape from the police the preceding night, he jumped from a window in the second story of his house, alighting upon his hands, and striking his head upon the side of a tub that was standing in the yard. Upon his entrance, at noon the next day, he still continued insensible; he



had a cut an inch long over one eye, and contusions upon various parts of his body; a compound and comminuted fracture of the right elbow joint, so that the finger could be introduced and moved about among the fragments. In addition, he had dislocation of the left wrist, and a fracture of the radius, near its lower extremity. His pulse was weak and frequent; skin cool; pupils slightly contracted. Sinapisms, &c. applied to his extremities, and stimulating enemata administered.

He recovered from the concussion on the following day; the elbow became very much swollen, red, and painful, with a profuse discharge of sero-purulent fluid; he had the usual symptoms of mania a potu; restlessness; inability to sleep; tremors, &c.

He was put upon the use of opium and porter, with a full and nutritious diet; the arm kept at rest by means of a rectangular splint on the upper surface, while poultices were applied to the wound on the under side.

*December 3d.*—The patient has suffered severely from pain and constitutional irritation; the discharge has been very copious; he has lost flesh and strength, and had fever and night sweats. The swelling of the arm has subsided within a few days, and he suffers less pain. An additional opening has formed on the upper and outer part of the elbow, from which there has been a large discharge of pus, and two or three spiculæ of bone. Treatment continued.

*18th.* General health improving; he is able to use the left arm with facility; no other change to note.

*27th.* The patient is now regaining his flesh and strength; he has a good appetite; rests well at night, and suffers but little pain; the swelling and discharge from the arm are diminishing rapidly. The fungous granulations were improved, by being sprinkled twice a day with the sulphate of morphia, and caustic has since been applied. The angle of the splint is occasionally varied as much as can be borne. He takes but gr. j. opium at night. Other treatment as before.

*January 24th, 1835.*—During the last two weeks the patient has been using an angular splint, by means of which he may move the part without displacing the dressings, with the view of preventing the ankylosis that must necessarily take place, from being perfect. The splint acts very well, and there is slight motion at the elbow; the ulcer is small, and discharges but a few drops of pus daily; granulations healthy.

The patient was discharged at his own request on the 14th of March; his health good, with an ulcer not larger than a pea, over the



joint; no exposed bone could be detected. He has the power of flexing and extending the arm to a very limited degree.

CASE III. *Compound Fracture of the Elbow Joint—Recovery, with the Motions of the Part—Moveable Angular Splint.*—Thomas C. æt. 21, manufacturer, admitted January 18th, 1835. Not very robust, but enjoyed good health. On the morning of his admission he was assisting to drag a fire engine, and slipping on the ice, he fell directly before the wheel, which passed over the left arm, just above the elbow joint, producing a fracture, which was comminuted, and also extended down between the condyles, which, however, were only very slightly separated. The soft parts were severely contused, and one or two wounds existed in the integuments, from which there was some hæmorrhage.

Upon his entrance his skin was cool, and pulse feeble, but regular; he suffered acute pain; there was much blood effused, and the swelling was increasing. The following plan of treatment was adopted:—The forearm was flexed at a right angle with the arm, pressing together the condyles extension was made, the fractured portions brought as nearly in apposition as possible, and compresses of lint secured over the openings by adhesive plaster; a wet roller was then applied from the hand up the arm with tolerable tightness, the arm was placed upon a rectangular splint, so padded as to relieve the wounded parts from pressure, and firmly secured to it by another wet roller. Cold lotions were directed to be kept constantly applied on these bandages from the wrist to the middle of the arm.

He suffered much pain, which was relieved by opiates; the hæmorrhage continuing slightly for a few hours, impregnated the bandage, which in that part became hardened, so as to form a complete case for the elbow, and as the circulation in the hand was good, and no evidence existed of injury from the pressure, the dressings were not disturbed till the evening of the 21st. The parts then presented a very favourable appearance; the swelling had been effectually kept down, and there was but little evidence of inflammation. The same apparatus was again applied, and the same applications continued. As he had some fever, he was directed to take a solution of tart. antim. gr. one-twelfth, q. 2 h. Vegetable diet.

23d. Patient has more pain in the arm, and general restlessness; he had a chill this morning, which has been followed by fever; tongue brownish in centre, and inclined to dryness; pulse 100, quick; bowels not open. Increase sol. ant. tart. to one-sixth, of a grain, every two hours. Purgative enema. Poultices to the arm.

31st. Free suppuration has taken place in the arm, and considera-



ble sloughing of the cellular tissue; there is a subsidence of the swelling and fever. He takes mist. neutral,  $\mathfrak{z}$ ss. q. 2 h. Poultices continued.

*February 10th.*—Less discharge from the arm; considerable swelling about the joint; ulcerated surface on the under side of the elbow, from sloughing of the contused integuments, presents a healthy appearance; a probe passed into one of the openings, reaches the rough edges of the fracture; no union. His pulse is generally from 84 to 94, regular, a little quickness; tongue moist, reddish at the tip only; he has a little fever towards evening, and sweats at night; appetite good; bowels kept open by enemata. The limb is kept bound on a rectangular splint. Full diet.

*18th.* The swelling has so much subsided, that on the 16th paste board splints were applied to the inner, outer, and upper sides of the arm, the lower being occupied by the upper portion of the rectangular splint; union appears to be commencing. The patient sits up in bed, and is gaining strength with a gradual diminution of the discharge from his arm.

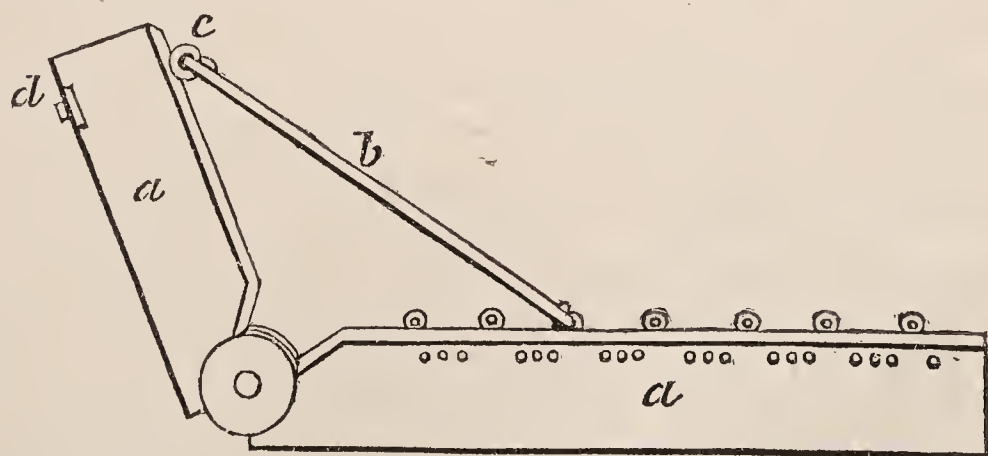
*20th.* As ossification has now fairly commenced, I to-day applied the moveable angular splint, by means of which he is directed to use passive motion frequently throughout the day.

*March 14th.*—The splint has been constantly employed up to the present time, and with very satisfactory results; the motions of the joint have increased daily, and with scarce any trouble in changing the apparatus. As the bone has now become so firm as not to require a splint on the under side, it has been removed, that a better opportunity may be had of exercising the rotatory powers of the arm. The ulcer on the elbow is healed. The patient's general health is good.

*28th.* Discharged. He now has nearly all the natural motions of the arm, that of rotation being the most defective. The swelling of the joint has subsided, and he is able to lift moderate weights.

*Observations.* The splint spoken of in the two last cases, is one which the writer has used in several instances in the hospital, with very satisfactory results. It is represented in the annexed cut.

A bandage two inches wide is usually



*a a.* The splint connected together by a circular joint, and having eyes on the inner edge, two inches apart, and holes through the splint at graduated distances between them.

*c.* A swivel eye, passing through the upper part of the splint, and riveted at *d*.

*b.* A wire fastened to the swivel *c*, and bent at right angles at its other extremity; of a size to fit the eyes and holes in the splint.



employed, so that the eyes are always accessible, and to use the holes, (all placed on the same line,) only requires the bandage to be perforated by an instrument of corresponding size.

It is well calculated for all those injuries about the elbow joint, that require passive motion, or a frequent change of position, as fulfilling the indication much better than the splints generally used, and at the same time saving the surgeon much trouble. It is simplifying the apparatus of the practitioner, as it is calculated for either arm, and is a complete substitute for a number of splints, with slight variations in their angles. It is easily constructed by any one; nothing more being required than the two portions of the splint, a rivet to connect them, and the brass or iron wire to form the eyes, and the rod which determines the angle.

The motion may be made as often as desired, either by an assistant, or the patient himself; in extending or flexing the limb, it is effected so gradually, that little pain need be given, and the eyes and holes placed at graduated distances, enable the surgeon to secure the limb in any position to which he has been able to bring it. The splint may be placed on the inner or outer side of the arm; may extend to the wrist, or the points of the fingers, and by having the bandage around the joint distinct from the other portions, the parts are always accessible for inspection, or the application of dressings, without any risk of displacement.

The first of the two cases of compound fracture reported above, was so extensive an injury, and the bones entering into the composition of the joint so completely broken up, that a more favourable result than ankylosis could hardly have been anticipated; indeed, his intemperate habits, his liability to mania a potu, and the probability of his having severe constitutional symptoms, might have been strongly urged against the attempt to save the limb. The motion might perhaps have been a little increased by an earlier application of the splint, but not possibly to any great extent.

The second case is interesting in many points of view; a compound fracture of the elbow joint, produced by the heavy weight of a fire engine, necessarily connected with extensive injury to the soft parts, was closed, and the limb firmly bandaged, the oozing of blood, moistened the bandages, and soon formed a complete case for that part of the arm, which was thus kept perfectly quiet, and protected from all external influences for upwards of three days. No unusual pain nor unpleasant symptoms occurred, and when exposed, the parts presented an unusually favourable appearance. The dressings might probably have remained advantageously a longer period. The prac-



tice has been recommended by high authority, and it may be questioned whether injury has not resulted from neglecting it in many cases of injury of the joints. If the parts can be brought into a nearly natural state of apposition, injury could hardly result from a trial of it, in the hands of a careful surgeon.

The great degree of motion, which was preserved to the limb, is mainly to be attributed to the use of the splint, that is described above, in which the efforts of his attendants were faithfully seconded by the patient. He called at my office on the 28th of May, and stated that he had been regularly engaged at his business since he left the hospital, and that he found but trifling inconvenience from the injury. There is slight deformity about the joint; the motions of flexion and extension are nearly perfect, that of rotation is less so, although sufficient for all ordinary purposes.

CASE IV. *Fracture of the Scapula, with an extensive Lacerated Wound of the Glutei Muscles, &c. terminating in Death.*—John Miller, æt. 54, gardener, of intemperate habits, and rather feeble constitution, admitted on the evening of the 2d of March, 1834. He is deaf; and while walking along the track of one of the rail-roads near the city, he was run against by a locomotive engine, with such force, that he was thrown in advance of it with violence against the projecting iron rail; the ash pan of the engine, in passing over him, produced an extensive lacerated wound of the soft parts, about the nates and thigh, ten or twelve inches in length, and in some parts more than three inches deep.

He complained principally, however, at the time of his admission, of violent pain through the shoulder when pressure was made, or when the arm was moved extensively. Upon examining the parts, a fracture was detected, passing in nearly a transverse direction across the scapula, from one to one and a half inches below its spine; the fragments could be easily displaced, but returned into their natural situation when the pressure was removed. No deformity whatever was apparent in the shoulder. No apparatus was used, the arm being merely kept at rest upon a pillow. His wounds were dressed with adhesive plaster and poultices. Sloughing soon commenced, and although arrested, the ulcerated surface and loss of substance were so extensive, that his enfeebled constitution appeared incapable of repairing so serious an injury. The granulations never assumed a healthy appearance; sloughing again took place; he gradually became more feeble, and lingered till the 25th of April, when he died. For two weeks before his death, he had used the injured arm without



pain or inconvenience; the appearance of the shoulder continuing natural.

*Autopsy, fifteen hours after death.—Exterior.* Emaciation; the wound on the nates had extended so as to occupy a space about nine inches in diameter; the glutei muscles are exposed; a dark slough exists over the sacrum, four inches in diameter, and a much smaller one near the inferior portion of the injured or left scapula. Upon cutting down to the scapula, the seat of the fracture was at once detected. The fragment had united firmly, and a ridge of callus extended across the bone.

*Brain.*—No blood in longitudinal sinus. *Dura mater* not injected. *Arachnoid* contains rather more than the median quantity of serosity. *Pia mater* not injected; cortical substance of a pale gray colour in both hemispheres; medullary not injected; incision moist; consistence perfect. Ventricles containing  $\frac{3}{4}$ ij. of limpid serum; central parts firm and white. Cerebellum pale and firm.

*Thorax.*—Extensive old cellular adhesions on both sides, especially the right. *Lungs* spongy, soft throughout, no tubercles; no hepatization; very little blood. Bronchi not thickened, pale. *Heart* firm, rather smaller than the fist; left ventricle somewhat hypertrophied, three-fourths of an inch thick; valves healthy.

*Stomach* moderately distended, containing half a pint of greenish fluid; the mucous membrane softened in the whole of the great cul-de-sac; the softening is irregular, in large patches; a few bands irregularly disposed; the other coats untouched. The colour of the softened and thin parts is pale white, that of the remainder dirty ash, with a few submucous arborizations; consistence nearly natural.

*Small intestine* contains a yellowish liquid of the consistence of thick cream. Mucous membrane every where thin, very adherent, especially in the lower fourth, but throughout strips are raised with difficulty, and not at all towards the end; no injection. Glands of Peyer reticulated, a few dotted with gray, hardly visible. Mesenteric glands small, firm.

*Large intestine* containing consistent fæces. Mucous membrane pale, adherent, strips scarcely four or five lines in the middle of the canal, longer elsewhere. *Spleen* firm, brown, four inches long. *Liver* moderately gorged; two substances distinct, firm, not fatty. Gall-bladder distended. *Kidneys* firm, not granulated, smooth externally.

CASE V. *Disease resulting in Destruction of the Cartilages of the Knee-joint, and requiring Amputation.*—H. M. æt. 32, admitted



December 13th, 1834; of good intelligence; very pallid aspect; a native of Switzerland; till within ten years a carpenter; was five years in the Guards of Paris; during the four years he has been in this country, he was employed as a confectioner.

Although much exposed, he has generally enjoyed good health, has never been subject to cough or glandular swellings, and knows of no cause for his present disease. It commenced seventeen months ago, with pain and swelling of the knee, which gradually increased, inducing lameness, although he still continued to work for seven months. He had blisters, mercurial plasters, and a variety of other remedies applied without advantage. When he entered, he suffered much pain, had night sweats, and was unable to sleep; his appetite was tolerable; pulse about 88, quick; three large ulcerations existed around the knee, from which pus was freely discharged; the leg could be moved so freely as to lead to the belief that the cartilages were nearly destroyed. He was placed upon a course of treatment calculated to invigorate his system, previous to the performance of an operation which there was every reason to expect would soon be imperiously demanded.

*January 31st, 1835.*—During the last two weeks, the patient has had some cough, without pain in the chest; the knee has become more swollen, and the whole thigh and the scrotum œdematous, but without any tenderness or change of colour; the circumference of the diseased limb just above the joint is nearly double that of the sound one. Amputation was performed at 11 this morning by Dr. HEWSON. Owing to the extensive infiltration of the limb, so much difficulty was experienced in completely arresting the circulation, that it was deemed prudent to secure the two largest vessels, immediately after cutting through the muscles, and before sawing off the bone; he consequently lost several ounces of blood. He bore the operation well; his pulse after it 88. He took morph. sulph. gr. j. before the operation, and when placed in bed, perspired profusely for several hours.

Upon examining the limb after the operation, the cartilages were found to have entirely disappeared, excepting a very small portion on the outer edge of the tibia, and on the external condyle of the femur; the extremities of both bones were soft and covered with granulations, the abscesses below, communicated by a passage lined with a false membrane with the cavity of the joint, the whole limb was extensively infiltrated with serum, and the muscles presented a peculiarly pallid appearance.

*February 3d.*—Patient had fever the evening after the operation, for which he was directed to take mist. neutral.  $\overline{z}$ ss. q. 2 h. To-



day he is without fever; pulse rather feeble; tongue moist, a little coated; his cough has been troublesome since the operation, and for which he takes morphia mixture. Improved diet.

6th. First dressings removed on the 4th, daily dressings since, but little discharge; subsidence of the œdema; about one inch at the lower point, and nearly the same at the upper edge, have united by adhesive inflammation; an abscess has formed, from which thick, healthy pus is discharged; he has much less cough; tolerable appetite; pulse 80; tongue moist. Continue good diet. R. Acid sulph. dilut. gtt. xx. ter die. R. Infus. ligni. quassia, ℥ij. ter die.

16th. The cough has been relieved by the frequent application of dry cups to the chest, and the use of morphia. He has wine in addition to a full diet; the stump is granulating finely, but owing to the retraction of the integuments, a small portion of the edge of the bone is exposed, the centre is covered with granulations. His health is much improved.

March 23d.—Since last report the patient has entirely recovered his good health, and has gained flesh; appetite and digestion good; sleeps well; no cough; the integuments have been brought down to cover the bone by a roller commencing near the groin, and extending downwards to the extremity of the stump; cicatrization is going on rapidly; granulations healthy.

From the date of last report, the patient continued to improve; he had no cough, nor other unpleasant symptoms; the stump became firm, without the exfoliation of any bone, and he was discharged on the 6th of May.

CASE VI. *Sprain of the Wrist terminating in Caries, &c. and requiring Amputation five Years after the Original Injury.*—W. L. æt. 21, waterman, admitted December 11th, 1834. Has generally enjoyed good health. Five years ago, when chasing ducks among floating ice in the Delaware, he sprained his wrist, by attempting to force his boat over a piece with which it had come in contact; it gave him but little inconvenience at the moment, but on his return became painful, and commenced swelling. He continued to use it up to the summer of 1832, and frequently injured it slightly; during all this time the swelling never subsided, and more or less pain was always present. Until this time he had not had medical advice, but used a variety of domestic remedies, as might have been expected, without advantage. He was for a short time under treatment that year, and then had no attendant till the summer of 1834, when he had entirely lost the use of his hand, and suffered violent and deep-seated pain in it; an opening was made shortly afterwards, and the bones of the



wrist found to be extensively carious. Upon his entrance, the hand was enormously swollen, red and tender to the touch, four or five openings existed on the back of the hand, but all leading to the diseased mass. An attempt was made to save the limb by removing the diseased bone, but the caries had extended so far, and his health had suffered so much from the irritation, that amputation appeared to be the only remedy that remained, particularly as the metacarpal bones were also diseased, and as within a few days the inflammation had extended above the wrist. He was on a nourishing diet, with the use of porter and opiates.

The operation was performed by Dr. BARTON, on the 25th of March, 1835, four inches above the wrist. He lost but little blood, and slept well the following night, after taking his usual opiate. He had no fever on the second day from the operation, and was gradually put upon a full diet with porter. The first dressings removed on the 28th. One-half of the whole stump united by adhesive inflammation, in the remainder there was slight retraction of the integuments, the space between which was soon filled with healthy granulations; his health began to improve at once, and he to gain flesh and strength. He was discharged on the 11th of April.

The whole hand was infiltrated with lymph and serum, several openings existed on the palmar and dorsal surface, through which protruded fungous granulations; the bones of the metacarpus and of the carpus, were extensively carious; several of the cartilages and ligaments connecting the different bones of the wrist to each other and to the forearm, were partially destroyed, leaving the ends of the bones exposed.

CASE VII. *Amputation of the Hand by Machinery—no Ligatures required for the Vessels—Recovery.*—Robert R. æt. 10, admitted March 19th, 1834. He is a fine healthy boy, and has only been in the country one year; while attending to some of the machinery in one of the factories at Manayunk, his left hand was caught by a belt passing over a large drum, and drawn down forcibly to the floor, by which the hand was torn off, with a small transverse portion of the lower end of the radius; the muscles were ruptured about four inches above the wrist, and drawn out, still remaining attached by their tendons to the hand. He was brought to the hospital the same evening. There was very little hæmorrhage, and no vessel requiring the application of a ligature. As nearly enough skin remained to form a flap, it was gently drawn over the stump, and dressed as usual after an amputation. An opiate was administered, and he had a comfort-



able night, but the following afternoon had fever. R. Potas. nit. ʒj.; Antim. tart. gr. ss.; Aquæ, ʒiv. ft. sol. s. ʒss. q. 2 h.

21st. Still has fever; but little pain in the arm; bowels not open. Directed magnes. sulph. Continue mixture.

22d. Dressings removed to-day; the parts are not much swollen nor inflamed; he suffers pain, but is able to sleep at night. There is redness and tenderness of the arm near the elbow, to which cold lotions are applied.

25th. Slight sloughing of the integuments over the stump. Simple dressings. Ol. ricini, ʒss.

29th. The stump is covered with healthy granulations. A small collection of pus took place above the wrist, near the point where the muscles were ruptured; this has been evacuated and is poulticed.

April 3d.—Doing well in every respect; simple dressings only, and full diet. From this time nothing occurred worthy of note; the granulations occasionally requiring the sol. cup. sulph. but cicatrized perfectly, so as to leave a good stump; and he was discharged on the 11th of May.

CASE VIII. *Aneurism by Anastomosis—Convenient mode of Applying the Ligature—Cure.*—Mary Ann P. a healthy child, nine months old, was brought to the hospital on the 3d of December, 1834, for the purpose of having an operation performed for an aneurism by anastomosis, which had existed on the left side of the cheek, near the angle of the mouth, since birth. When first noticed, it was about the size of a small pea, and has gradually increased up to the present time, so that it now nearly equals a small nutmeg in size. The child has at times appeared to suffer pain in the tumour, and been disposed to irritate it by rubbing. The ligature was employed by Dr. Barton for its removal, and was applied in the following manner:—A common hair lip pin was introduced through the integuments under the tumour, so that about one-half of its length projected beyond the margins; by this the tumour was elevated, and a second pin introduced under the first, and at right angles to it. A strong ligature was then applied around the base of the tumour, below the points of the pins, as firmly as possible. The child did not appear to suffer severe pain, except at the moment of tightening the ligature. On the 6th the ligature was removed, and the slough separated on the 9th, leaving an ulcerated surface, three-fourths of an inch in diameter, and of healthy appearance. Simple dressings were applied; the granulations occasionally touched with the argent. nit. and on the 3d of January, 1835, the parts had cicatrized completely.



*Observations.*—This mode of operating for aneurism by anastomosis, was originally employed, at least in this country, by Dr. J. R. Barton, in the child of a Mr. Kent, on the upper part of the city, on the 22d of January, 1829. The patient recovered perfectly, and the operation has since been employed in numerous instances, with entirely satisfactory results. It is not only well calculated for cases of this particular kind, but also for other tumours so situated, that the application of the knife might be inconvenient, from the dread of hæmorrhage, or when, from the shape of the tumour, the usual mode of applying a ligature would be found difficult, or even impracticable. It has the advantage over the double ligature passed through the centre of the tumour, and tied on either side; that in the latter mode of operating, bleeding may still take place from the separated surface, through which the needle was passed, and the operator is not so well able to raise the tumour and place his ligature completely under it.

Several months after the performance of his first operation, Dr. B. discovered that a nearly similar operation had been performed by Mr. BRODIE, at a rather earlier period, upon a private patient, viz. on the 15th of October, 1828. She had recovered on the 27th of December, and her case was first read before the Medico-Chirurgical Society on the 27th of January, 1829, and published in their Transactions in the latter part of the same year; so that the operation of Mr. Brodie could not have been known in this country at the time Dr. Barton first employed it in this city. Such coincidences in surgical practice are not unusual.

CASE IX. *Inflammation of the Cellular Tissue about the Anus, with Profuse Discharge of Pus—Solution of Kreosote to the parts, with Iodine internally—Recovery.*—George W. æt. 24, machine maker, admitted October 14th, 1834. He has been in this country three years; has always been robust, and enjoyed good health, with the exception of a few months, a year ago, when he was afflicted with intermittent fever; from this, however, he entirely recovered. He knows of no cause for his present disease.

About the middle of July, he felt a sensation of uneasiness about the anus, that he at first attributed to hæmorrhoids, with which he had been affected for a few days, about two years ago. The pain, however, increased; the parts became hard, swollen, and red; he had a sensation of weight about the anus, with fever and loss of appetite. These symptoms increased so much, that on the fifth day he was compelled to be in bed. About four weeks from the commencement of the disease, a small opening took place along side of the anus,



from which a small portion of matter constantly oozed, and the parts gradually became softer, but with only a slight diminution of pain.

When he entered the hospital, the swelling and pain continued, but the heat was scarce more than natural; his general health had suffered; his pulse was rather feeble; he had loss of appetite, and constipated bowels.

A few days after, an opening was made by the side of the anus, at a spot where the tumour was softer than elsewhere; a small quantity only of matter was discharged at the time, but it gradually increased, so that in two days, near a pint of yellowish pus was discharged per diem; sloughing of the integuments and of the cellular tissue, extending up around the rectum, now took place, so as to form a deep, unhealthy looking ulcer, two inches in diameter. He continued in this state up to the 1st of November, at which time the prostration was still more decided; he had night sweats, &c. A probe could be passed upwards between four and five inches, but the sinus could not be traced further. No communication with the rectum was at any time detected. He had been on a generous diet, and had used tonics and other constitutional remedies, with poultices to the affected part.

He was now directed to take of Lugol's solution of iodine, gtt. vj. twice a day, and to inject a solution of kreosote, one part to eighty of water, thrice a day into the cavity. To continue his other treatment.

On the 12th of November, ten days after commencing this treatment, there was a decided improvement in the patient; his countenance became more animated, and his spirits better; his pulse less frequent; he had an increase of appetite, with a diminution of the discharge, and the granulations of the ulcer began to present a healthy appearance. The kreosote, in addition to its beneficial effect upon the granulations, destroys the fœtor effectually.

*December 3d.*—The improvement up to this date has been constant; the patient has gained flesh, and the discharge from being a pint, is now reduced to  $\frac{3}{4}$ ss. daily; his appetite and digestion are good; he has no pain, and moves his limb without inconvenience; the ulcerated surface is healthy and filling up rapidly. Treatment continued.

*18th.* The sinus is now small, one inch deep, near the rectum, but not communicating with it.

*28th.* One or two other sinuses have formed under the skin, which have been laid open, and the same application continued; the patient's health is good, and he is gaining flesh rapidly.

*March 23d.*—Several small sinuses have formed since the date of



last report, but none that were deep; they have been successively laid open, and two or three flaps of integument removed; the granulations have required the occasional application of nit. argent. or sol. cupri. sulph. and are now all healing. He continues the solution of iodine, (increased two weeks ago to gtt. ix. bis die;) his appetite is excellent, and he has never experienced any uneasy sensations at his stomach.

He continued to improve, and was discharged well, on the 15th of April.

CASE X. *Rupture of the Bladder, Abductor Muscle, and Femoral Vein, and Partial Rupture of the Femoral Artery, without external Wound—Wasting and Deformity of the Left Arm, with an Apoplectic Cyst in the Right Side of the Brain.*—Charles L. a pedler, aged about fifty years, was brought to the hospital on the 26th of February, 1835, near midnight, having been injured by the passage of a railroad car, early in the evening, about a dozen miles from the city. The accident occurred from his stepping from a car when in motion, and falling under it; but the persons who were with him, were not able to state the precise mode in which the injury was received.

He was carried in a common wagon to the city, and upon his entrance, was scarce able to articulate; he complained, however, of severe pain; his countenance pallid, and exceedingly anxious; features contracted; surface cold; pulse scarce perceptible; slight delirium. He had a comminuted fracture of the leg, and immense swelling of the injured limb, particularly near the groin, where it had a livid aspect. The left arm was deformed, wasting of the muscles, not being more than half the size of its fellow; the hand was rigid, and drawn down upon the wrist. All the usual means of exciting reaction were resorted to without effect. Death at 3, A. M. on the 27th. We were unable to obtain any previous history of this case.

*Autopsy, thirteen hours after death.—Exterior.* Moderate muscular development; rigidity of the extremities; no lividity, except of the injured limb; compound fracture of both bones of the right leg, about four inches above the ankle; ecchymosis on the inner part of the thigh, and great distention from the knee, to a line extending from the upper part of the crista of the ileum to the symphysis pubis. Upon cutting through this swollen part, the abductor muscle was found ruptured, or rather crushed; immense infiltration of blood into the cellular tissue. Complete rupture of the femoral vein, three inches below Poupart's ligament; partial rupture of the femoral artery at the same point, the internal and middle coats only, being divided. The effusion into the cellular tissue extended upwards to



the line above indicated, and as discovered at a later step of the examination, the blood had passed under Poupart's ligament, and infiltrated extensively the sub-peritoneal tissue behind the bladder, &c.

*Head*.—Longitudinal sinus empty; arachnoid moist; ventricles contained  $\frac{2}{3}$ ss. of serum; the substance of the brain of a beautiful consistence; in the middle lobe of the right side was found a cavity, large enough to receive a full-sized almond, lined with a membrane, and with which the fissure of Sylvius communicated; the substance around this cavity perhaps rather firmer than elsewhere. Central parts pale, firm.

*Thorax*.—No adhesions; lungs grayish anteriorly, slightly gorged with blood posteriorly, permeable to the air in every part; no tubercles nor granulations; no emphysema. Bronchi pale. Heart medium size, firm; fibrous coagulum in the left ventricle; valves healthy.

*Abdomen*.—*Stomach* distended, contained one pint of fluid of a whitish colour and acid odour. Mucous membrane of a light straw colour, particularly in the great cul-de-sac, where there is slight softening, (post mortem;) mammillation; consistence in other parts good; strips six to eight lines.

*Small intestine* containing mucus only, and two living lumbricales. Mucous membrane pale, and of good consistence. Glands of Peyer developed; isolated follicles visible.

*Large intestine* contained a little feculent matter, was somewhat contracted. Mucous membrane of good consistence. *Spleen* medium size, bluish colour, and of good consistence. *Liver* rather small, reddish-brown colour, not fatty. Gall-bladder filled with yellowish-green bile. *Kidneys* healthy. *Bladder*. A catheter passed through the urethra, at once entered the abdominal cavity; the posterior part of the bladder being so extensively torn, that excepting a strip one and a half inches in width, it was entirely detached; the membrane was pale, and of the usual consistence.

CASE XI. *Psoriasis Diffusa*—Cured by Sulphur Vapour and Warm Baths.—Thomas H. æt. 54, labourer, admitted June 28th, 1834; native of England; has been in this country three years; has always been robust, and generally enjoyed good health. His occupations have generally been active, and he never had any cutaneous disease before the present. He has had venereal several times, (the last, fifteen years ago,) but never secondary symptoms.

At Mobile in April, 1832, two months after his arrival in America, he first noticed the eruption on his arms, from which it spread consecutively to the lower extremities, the head and face. In March, 1833, it appeared on his chest, and soon after extended to almost



every portion of his body. BATEMAN, (Synopsis, p. 58,) describes this form as commencing like the *P. guttata*, "in the form of small, solid, red elevations, resembling flat pimples, which are soon covered with small, dry scales, and coalesce into larger patches, which are irregularly circumscribed, and exhibit a rough, red, and chappy superficies, with very slight scaliness interspersed. This surface is exceedingly tender and irritable, and is affected with a sensation of burning and intense itching, both of which are much augmented on approaching a fire, or becoming warm in bed. As the disorder proceeds, the redness increases, and the skin appears thickened, and elevated with deep intersecting lines or furrows, which contain a powdery substance, or very minute scurf. The heat and painful sensations are much aggravated by the least friction, which also produces excoriation, and multiplies the painful rhagades."

When at Mobile, he states that he made use of a solution of white and red precipitate, āā. ℥j. to a pint of vinegar, as a wash to his whole body, for six days, producing a profuse salivation, with which he was very ill for twenty days. During this period the eruption faded almost completely; but upon recovering from the salivation, it reappeared with greater severity than ever, so that he was scarce able to attend to any business. He tried a variety of remedies without any advantage, and finally resorted to the use of lard as a local application, and a solution of sulphate of magnesia and nitrate of potash internally, from which he thought he derived some benefit.

When he entered the hospital, the eruption existed so completely over the body, that excepting a space about six inches wide on the abdomen, there was scarce a spot as large as a dollar that was not affected. The eruption was elevated, of a bright red colour; scales frequently falling off; he had pains throughout his body; head-ache; moderate appetite; a sensation of weight at the epigastrium after eating; bowels inclined to constipation.

He was placed upon a milk and vegetable diet; directed to take the sol. iodini of Lugol, gtt. viij. bis die, and to use the unguent. iodini externally. A bath at the temperature of 98° every other day.

This treatment was continued for five weeks with some advantage; the eruption became less prominent and a little thinner. All remedies were suspended for a few days, and he then commenced the use of the sulphur vapour bath every day excepting one in each week, when he took a warm bath of the same temperature as above noted. No medicine internally. Same diet continued.

*December 27th.*—This last treatment has been faithfully persisted in, excepting an interval at different times of about four weeks, from the apparatus requiring repairs, or from slight indisposition in the



patient. After ten days the improvement was constant and decided, so that by the 20th of November, there existed only one spot, two inches in diameter, on the side, and near twenty smaller ones on all the rest of the body. At this time, there is only that on the side, reduced to half an inch in diameter, pale, indeed, scarcely differing in appearance from the rest of the skin, which is perfectly healthy. His general health is good, and he has regained his flesh and strength. The patient was not discharged till the 8th of March, 1835, at which time he had been well for several weeks.

CASE XII. *Psoriasis Palmaria—Cured by Blisters and Citrine Ointment*.—T. K. æt. 30, labourer, was admitted into the hospital under the care of Dr. Hewson, on the 21st of November, 1834. The patient is a native of Ireland, robust, and has always enjoyed good health. He never before had any cutaneous disease, and was not aware of any constitutional disturbance at the commencement of the present attack, which was eighteen months before his admission. “This variety,” (of psoriasis,) says Bateman, “is an obstinate tetter confined to the palm of the hand and wrist, which are rough, hot, and itchy, of a dirty hue, and cleft by deep furrows, that bleed when the fingers are stretched. The itching is intolerable whenever the hands are exposed to heat; the palm is harsh and dry, and rhagades rapidly form.”

The right hand, near the ball of the thumb, was the part first affected, it gradually spread, cracked, became painful, and was exceedingly annoying when at his work; the left was soon after attacked. Upon his entrance, the skin covering the whole palm, and the first phalanges of the fingers of the right hand, with the anterior half of the palm, and a small spot at the base of the thumb of the left, constituted the diseased portion.

The cuticle was so much thickened, that it was impossible to derive benefit from the application of blisters; he was, therefore, directed to envelope the hands in soft poultices till the hardened cuticle was removed, which was effected in about ten days. A blister was then applied, which drew well, and was dressed with the unguent. res. flav. till the irritability had sufficiently subsided to admit of the application of the citrine ointment, diluted with an equal quantity of olive oil. The quantity of oil was gradually diminished, and in one week he was able to use the strong ointment. Under this treatment he improved rapidly; the cutis became perfectly smooth, without cracks or irritation, or without any stiffness or inconvenience remaining from the disease. He continued the application till within a week of his discharge, which was on the 3d of January, 1835.

CASE XIII. *Eczema Rubrum, arising from Cold—Treated by Mu-*



*mucilaginous Baths*—*Small doses of Antimony, and Lard as an Unguent.*—Hugh M. æt. 27, labourer, tall, and having rather sandy hair and complexion, was admitted into the hospital under the care of Dr. Hewson, on the 18th of January, 1835. He has rarely had any serious indisposition; upwards of two years since he had venereal, with secondary symptoms; he was salivated and recovered. After this, in December, 1832, when employed in the brick yards near the city, and much exposed to cold and dampness, without previous indisposition, he had an attack of eczema, (for characteristics of disease, see Bateman's Synopsis, p. 360,) which then first made its appearance in his face, and afterwards extended to every part of the skin. It had existed two months when he entered the hospital, from which he was discharged after a residence of nine weeks, perfectly cured by a plan of treatment precisely similar to that which will be detailed hereafter, with the addition of the Syr. sarsap. comp. of which he took ℥ij. ter die, for seven weeks.

He continued well till two weeks before his second admission, when being thinly clad, he suffered from the cold in walking from Manayunk to the city, and on the second day afterwards, the disease again appeared, first on the penis, and soon became universal. Upon his admission, scales existed on every part, and were separated in large quantities in his bed; the cracks in his feet rendered walking painful; he had a discharge from around the ears; slight inflammation of the eyes; his head and body were much swollen, but when quiet he suffered but little pain. He had head-ache, but no nausea or loss of appetite; his bowels were regular, and his pulse about 126.

He was directed to take a mucilaginous bath, as warm as he could bear it, daily; to take one grain of tartrate of antimony, in a pint of barley water, every twenty-four hours, and to anoint his whole body with common lard rubbed up with water. Vegetable diet.

From the second day after commencing this treatment, an improvement was observable; large scales were rubbed from his body; his pulse became gradually less frequent, till it reached the natural standard, and the skin in every part recovered its healthy feeling and appearance so rapidly, that by the 7th of February he appeared perfectly well, and was discharged from the hospital on the 14th.

*Observations.*—The number of cases of disease of the skin admitted into the Pennsylvania Hospital, is much smaller than might be expected in an institution where between twelve and thirteen hundred patients are under treatment annually. The interest in the number received is much diminished from the fact, that no ward is specifically appropriated to them, and that in a majority of cases their diseases are of long standing, and have assumed an aggravated



character before application is made for their admission; they also frequently become impatient, and leave the house before the relative value of different plans of treatment, necessarily chronic in their operation, can be fairly tested. From this and other causes, many are discharged when they have been relieved, and when a longer continuance would have effected cures. The writer has reported but three cases, all of different characters, but possessing some interest. In the first case, we have an exemplification of the value of sulphur vapour baths, which have been highly recommended, and which generally prove serviceable when faithfully persevered in. I have seen this patient repeatedly since he left the house, and have always found him in good health. The second case was one of some standing and severity, and was cured in a shorter period than is usual in that variety of psoriasis. The case of eczema was cured by a simple plan of treatment, in the first instance, in fifty-six days, and in the latter when he came sooner under treatment, in twenty. He had taken mercury several weeks before his first attack, but the exposure to which he was necessarily subjected by his occupation, was believed to have been the cause of the disease. In the second instance, he had taken no mercury, and the affection was traced directly to the operation of cold.

*Cases of Fracture of the Patella.*—No 1. Jane M. æt. 29, admitted October 16th, 1833. In falling backwards, and making an effort to save herself, fractured the right patella. Discharged December 2d. Ligament rather more than one-fourth of an inch. She experienced much difficulty in bearing a tight bandage.

No 2. John M. æt. 61, admitted April 5th, 1834. Fracture from a fall with the knee upon the edge of a curb-stone. Entered the hospital twenty hours after the accident, with great swelling and tenderness of the part; crepitation could still be detected, and a separation of the fragments. The limb was elevated, and leeches and cold applied to the knee. He could not bear a bandage till the 27th. Discharged June 28th. No appreciable separation of the fragments; union perfect; upper part slightly depressed.

No. 3. Jane M. (No. 1,) with fracture of the other patella. Admitted April 20th, 1834. Accident produced as in the previous instance, in attempting to keep herself from falling, and making great exertion with the sound limb to save that which had been before injured. Discharged June 28th. Union ligamentous, one-eighth of an inch separation; the upper fragment a little more depressed than the inferior one.

No. 4. Jane E. æt. 52, admitted January 21st, 1835. Produced by a fall upon the knee, fracture transverse, and a smaller fragment



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half an inch wide separated from the upper portion. Discharged March 21st. No separation can be detected between the upper and lower portions of the patella, except at the point where the small fragment existed, and here a line is detected; this last being a little depressed below the others.

No. 5. John M. æt. 32, admitted January 9th, 1835; fracture induced by muscular exertion in attempting to jump into a cart, by raising his body with the hands resting on the bottom of the vehicle; he was exceedingly restless, had mania a potu, and loosened the apparatus repeatedly; notwithstanding which, union took place with a separation of less than one-fourth of an inch. He insisted on leaving the hospital contrary to the wishes of his attendants, on the 14th of March. After his return home, it appears he commenced bending his leg at once, and met with some accident, by which the union between the fragments was entirely broken up, and they are now between two and three inches apart, without any intervening ligament. He is again in the hospital for the purpose of having something done for his relief.

No. 6. This is a case of compound fracture, which was admitted on the 25th of March, 1835, and still continues in the hospital under treatment. If any union has taken place, (June 6th,) it is very slight. The details of this very interesting case will probably be soon given to the profession from another source.

The above six cases of fracture of the patella are all that occurred to the writer during a residence of two years in the Pennsylvania Hospital, and were all he believes that were received during that period. The comparative frequency of the accident appears to have been greater than has usually occurred in that institution, as many months not unfrequently elapse without there being a single specimen in the wards, where cases of fracture are always numerous. During the two years ending in April, 1835, two hundred and forty cases of fracture were under treatment, of these six were of the patella, or one in forty. Of these six, two occurred in the same individual; three were in males and three in females. Three were produced by muscular action alone, two from a fall upon the part, and that of compound fracture by a piece of rock thrown against the knee from an explosion.

*Tetanus*.—In copying for publication the report of the case of tetanus in the last number of this journal, an omission occurred which the writer takes this opportunity to supply. The plan of treatment adopted in that case is one which has been used successfully in several instances by Dr. Harris, to whom we believe the profession is indebted for its introduction in this city, and under whose direction as attending surgeon of the hospital, the treatment was conducted in the case to which we have just referred.



One other case has occurred to the writer since that which he has reported; it did not come under his care till many hours after the attack, and in a very unfavourable subject; yet the value of the plan in arresting the progress of the disease was fully manifested, although the case did not terminate favourably. The patient was a coloured man, eighty-nine years of age, and as might be expected, feeble; he had an extensive and unhealthy looking ulcer on the leg, but knew no cause for the present attack, unless it was exposure to cold. He had been indisposed one week previous to his admission into the hospital; the rigidity of his jaws had been noticed for three days, and he had had spasms for twenty-four hours, with severe pain at the epigastrium, and constipated bowels for four days before his entrance, at which time his jaws were permanently closed, and the spasms recurred nearly every half minute, affecting most of the voluntary muscles. His pulse was 100, regular, and of moderate strength, and his skin cool and moist;  $\mathfrak{Z}$ xxv. of blood was taken from over the spine by cups, and a blister extending from the occiput to the sacrum, applied immediately afterwards. A stimulating injection to open his bowels. At 10, P. M. he commenced the use of opiates, taking tr. opii, gtt. c. every two and a half hours. He slept but little during the night, but after taking the second dose, his spasms, although of equal violence, diminished very much in frequency, and in the interval he was able to open his mouth, so as to admit a spoon. He suffered but little pain at the epigastrium.

The same treatment was continued till 10 o'clock next morning, after which he took no opiate. During the two hours previous to this, he had had but two slight spasms, and expressed himself much better in every respect. Up to 2, P. M. he had one spasm, so slight as scarcely to be noticed, and all his symptoms were favourable; his pulse was 88, full and regular; skin warm and moist; he suffered no pain; slept most of the time, but was easily roused when spoken to.

The treatment had produced results so exactly as was desired, that hopes were now indulged of his recovery. At  $2\frac{1}{2}$ , P. M. however, he had a violent convulsion; his pulse after it was 120, quick; respiration slightly stertorous; puffing of the cheeks, and a cool skin. At 4 o'clock he had another of the same character, and died a quarter of an hour afterwards. The autopsy was made eighteen hours after death. The brain was moist, pale, and of unusual firmness. Slight effusion existed in the arachnoid of the spinal marrow; no injection; medulla firm, rather more perhaps than is usual; other parts normal. Upwards of  $\mathfrak{Z}$ iv. of fluid blood was removed from the cavity, made in cutting down to the spine, probably the result of the free cupping over the part.



ART. IV. *Observations on the Crusta Genu Equinæ, (Sweat or Knee Scab, Mock or Encircled Hoof, Knees, Hangers, Dew Claws, Night Eyes, or Horse Crust,) in Epilepsy.* By JOHN S. METTAUER, M. D. of Prince Edward County, Virginia.

IN communicating to the medical public our experience with a new medicinal agent, the wish to abridge human suffering in a most afflictive disease, and not to swell the catalogue of remedies, already too extensive, has been the governing motive.

We do not appear before our brethren as *innovators*, but as fellow labourers; tendering to the common stock the fruits of our little experience with an article, which, although confessedly new to most of the profession, has, nevertheless, been long and familiarly known to us.

The grounds upon which this new agent rest, for at least a favourable consideration of its claims upon the profession are, its successful employment in the cure of some forty or fifty well-marked cases of epilepsy.

The substance designated by the several appellations at the head of this article, is furnished by the horse; four oval surfaces, situated on the inner aspects of the extremities, near the knees, are the parts of the animal from which it is obtained. The secretion is poured out so gradually, and in such small quantities at a time, as not to be observed in its fluid, or even semi-fluid states. The crust is of variable colour, as well as density; its exterior is always of a lighter appearance, and harder than the interior, which is dark and soft; it is of a lamellated and fibrous texture, and when broken, resembles dark, soft horn; its odour is very penetrating, diffusible, and peculiar; it is deciduous, and separates gradually two or three times during the year; when prematurely or forcibly removed, the surface from which it is taken, sometimes bleeds a little, inflames, and becomes tender and sore.

Our investigations in relation to the peculiar function of the surfaces, or the offices they subserve in the economy of the animals themselves, do not enable us to say much, if any thing on this subject. Nothing certain seem yet to have been ascertained as to their uses. Conjecture and an extremely vague and loose tradition, afford the only explanations. The surfaces have been supposed to separate and eliminate from the system, a fluid possessing many of the constituents of sweat, and loaded besides with properties peculiar to itself, which, if detained, deteriorates the health of the animal. The



constant and regular discharge of this fluid, has been thought necessary for the perfect health of the animal, in promoting a sound state, more especially of the extremities, after-heels, hoofs, and legs, all of which have been supposed to become diseased in some way by obstructions of the surfaces.

Emunctories somewhat similar, exist on the inner surfaces of the extremities of the swine, near the knees, which, if long obstructed, generally result in lameness and dragging of the posterior extremities; a secretion is continually distilling from them, which, like the crust of the horse, displays the peculiar odour or scent of the animal, more particularly observable when surprised or irritated.

As a *medicinal agent*, the crust has been long known in this part of the country. How it found its way into use as a remedy, is not certainly ascertained. It is conjectured that the coincidence of the horse being observed to bite the crust, and to pass worms from the bowels soon after, suggested it as such, and the conjecture is by no means improbable, when it is remembered, that this article was first employed as a vermifuge with that animal. The foetid odour of the crust, it would seem, might naturally have suggested the idea of its possessing remediate powers, and doubtless did indicate it as a nerve and antispasmodic, after it was supposed to possess vermifuge properties.

We have long known and employed this substance as an antispasmodic; but the merit of introducing it into regular practice, is due to Dr. JOSEPH METTAUER, (the writer's father,) who employed it in epilepsy so early as 1782 or 1783. During the last twenty-five years we have enjoyed many, and satisfactory opportunities of using the crust as a remedy in epileptic convulsions.

In collecting the crust for medical purposes, it is necessary to attend carefully to its loosening tendency from time to time, or it may fall off and be lost. It may be made to separate a little sooner by gentle solicitation, and occasionally by firm compression with a bandage. This should be suffered to remain on after the period of disquamation is near at hand, to prevent the accidental loss of the crust. After it is obtained, it should always be dried a short time in the shade, and then it may be kept for use in a close jar, to prevent, so far as possible, the escape of its volatile properties.

We have to regret our inability to furnish a correct, or even a tolerably satisfactory chemical analysis of the crust; from what has been ascertained, the urate of soda seems to be one of its principal constituents; we are inclined to believe that ammonia, in combination with perhaps the lithic acid, may also enter into its composition;



from the peculiar compound odour which it often inhales, much resembles that emitted by common urine after standing some time.

Two forms for administration are only used—the powder and tincture. When the powder is to be used, it should always be freshly prepared, either by pounding and rubbing the dry crust in a mortar, or by grating it with a common nutmeg grater; this last process will be found, (generally,) most convenient, as it enables the practitioner to reduce it, at once, to a very fine and equable powder, even if the crust is imperfectly dried.

The tincture is prepared by simply digesting the broken or powdered crust in diluted alcohol, or common brandy, exposed to a gentle heat for eight or ten days, in the proportion of one part of the former to four of the latter.

The doses of the powder vary from two to twenty grains; it may be given diffused in any liquid which the patient fancies. With young patients it is safest to begin with the minimum, and increase very gradually to the maximum doses. Should the disease yield before the largest doses are reached, no further augmentation need be made. When the tincture is employed, from ℥ss. to ℥iiss. are its extreme doses. Diluted with water and sugar, it may be given with very little difficulty to the youngest subjects, as it is tasteless, and in a great measure inodorous. In this form also, the doses should be very gradually increased, to prevent, as far as possible, the danger of exciting the system too much, which might result from the menstruum, should the doses be suddenly augmented.

Possessing properties perfectly analogous to the crust, and employed with the same intention, and in nearly similar doses and forms, we will mention the parings of the hoof. In some cases it has been thought more efficacious than the crust itself. We have used it frequently in the form of tincture in the proportions of one part hoof to two of spirits, with complete success. A favourable result from the use of this remedy, (which we had prescribed in a case of epilepsy,) has been communicated to us since commencing this essay. Extreme doses, ℥j. to ℥ij.

The administration of the crust should always be preceded by a purgative or aperient. This step is designed to prepare the system for the action of the remedy, which it effects by unloading the intestines of vitiated secretions; increasing at the same time the nervous susceptibility of their mucous membranes to remediate impressions, and by determining from the head.

Aperients, or the milder purgatives, should be employed, and generally preferred in those cases of epilepsy distinguished by slight



aberrations in the animal economy; in such examples the pulse, bowels, and skin are very nearly in the condition of healthy organs; the paroxysms are short and transitory, succeeded by little or no coma, or even drowsiness. In cases marked by symptoms of greater violence, in which a decided inflammatory or congestive character predominates, cathartics should be used; to be varied in activity and strength in proportion as the symptoms partake more or less of acute characters; these are to be repeated until a decided impression is made. Cases of this latter description sometimes require V. S. also, and when this remedy is employed, blood should be always detracted from one or both of the external jugulars, if possible. Occasionally mercurials alone, or in combination with antimonials, are required.

In the first description, or milder cases of epilepsy, some preparations of rhubarb, or rhubarb itself should be preferred. In the more violent cases, a combination of aloes, scammony, and jalap, has generally been found most suitable; of each from two to five grains. Calomel with tart. antim. may be added, should the biliary secretion prove very defective, in proportions of two to four grains of the former, and one-fifth to one-third of a grain of the latter. These are to be repeated daily, or once in two days, until the circulation is balanced, the encephalic congestions in a measure dislodged, and the sympathies restored. These preparatory steps having been premised, the crust may be commenced with.

The form or preparation is to be determined by the peculiarities of constitutions, or the complications which modify the disease. Should the case occur in a constitution displaying a highly wrought sanguineous development, the crust in simple powder will be most applicable, and should be preferred.

It will be safest to begin with the remedy at night, and as soon after the disturbances of the preceding paroxysms have subsided as possible. When given at night for the first time, it is more certainly retained by the stomach, and patients too, are less averse at this period of the day to the taking of an offensive remedy, very probably because the gastric organ is rendered less fastidious by the action of food and drinks upon it during the day.

With young subjects from six to eight years of age, two grains will, in a majority of cases, constitute the commencing dose. We have never used it with patients younger than six years, or older than thirty. Older patients say from eight to twelve, or fifteen years of age, will bear four or five grains, or even larger doses in the commencement, and with such it may be more suddenly increased to the maximum doses, without gastric disturbances. The remedy rarely



offends the stomach when the foregoing precautions are properly attended to; on the contrary, it seems rather to compose and tranquilize this organ. Three doses, in a majority of cases, are as many as will be required in the twenty-four hours. Should cases occur marked by convulsions of unusual violence, with frequent paroxysms, it may be given oftener. From many trials with this article, it has not been perceived that there is much diversity of effect when employed in large or medium doses with young subjects.

Cases requiring the tincture, differ from those already noticed, chiefly on account of the more strongly marked developments, with which they are associated; in such examples of epilepsy, a decided hydropic diathesis not unfrequently obtains; the adipose textures generally, but more especially of the skin, are disposed to bloat a little, with universal pallidness and reduced temperature; the secretions from the skin, bowels, and kidneys, are generally defective; the pulse is occasionally slow, feeble, and soft, but more frequently it is preternaturally active and corded, from the nervous mobility generally attendant upon imperfect sanguification; such patients are nearly always languid and sluggish, and often require diffusible stimuli to rouse the enfeebled energies, both of body and mind, to something like a comfortable state of excitation; with such subjects, the approach of the paroxysm is more gradual, and may, in many instances, be foreseen for hours, and sometimes days. To this complication of epilepsy, the tincture is most happily adapted, as it presents the remedy in the form best calculated to act promptly, as well as to meet the several indications of cure. It should, (as advised with regard to the crust in substance,) always be commenced with at night, and in the minimum doses; from  $\mathfrak{zss}$ . to  $\mathfrak{zjss}$ . may be given, properly diluted, three or four times during the day. Being less permanent in its effects, the tincture should be given more frequently than the crust in substance, especially if the symptoms are urgent; these doses may be repeated with safety as often as once in three or four hours.

Occasionally in this form or complication of epilepsy, it becomes necessary to employ tonics, either mineral or vegetable, or perhaps both, before the tincture, (or powder,) can be given with the least benefit. By invigorating the organic tone, upon which the normal functional actions materially depend, (especially of the digesto-nutritive systems,) our agent is enabled the more effectually to produce its specific remediate excitation. That debility exists in these cases, may be inferred from the general anæmial aspect of such patients, as well as from the marked benefits following the use of tonics. It



is an observation worth remembering, (the truth of which has been often verified in the course of our practice,) that nervines rarely benefit when the organic tone is greatly depressed; like mercurials, they are more certainly remediate, under certain circumstances of energy of the organic vitality; depressed, (or exalted,) inordinately, both fail of their remediate effects.

Should costiveness supervene, (which will be often the case,) a combination of scammony, aloes, and rhubarb is to be used, in doses of from two to four grains of scammony, about the same proportion of aloes, and from four to eight grains of rhubarb, made into pills. This compound should be given at night, and the doses so managed, as to elicit only one or two evacuations, the design not being to purge freely. In restoring the solubility of the bowels, we know of no combination so well suited to such cases as the one just recommended; its action is gentle, but effective, particularly in eliciting the biliary secretion, upon which circumstance the peristaltic movements of the intestines are mainly dependent.

The crust, administered in either of its forms, should be suspended during the employment of aperients or cathartics; and should not be resumed, until, at least, the active cathartic movements subside. To correct the acidity which is occasionally present in this form of epilepsy, it has been found necessary to employ alkaline absorbents; and for this purpose a weak lixivium of hickory, or grape-wine ashes, has seemed to answer best: it should be prepared by mixing one heaping table-spoonful of the ashes in a quart of water; of the clear liquid, from ℥ss. ℥j. may be taken two or three times daily, after eating, or as often as may be found necessary, without irritating the bowels, which it will sometimes do if continued too long.

In both modifications of the disease, the diet should be particularly attended to during the whole course of the treatment, and indeed for some time after the cure may be supposed to have been effected. In the sanguineous variety it should be decidedly abstemious; animal or oily substances are to be inhibited; cooked farinaceous articles; some of the soft pulpy fruits; molasses; and occasionally, thin animal broths will be found most suitable; very little food of any kind should be taken into the stomach after 2 o'clock, P. M. The epileptic patient should always retire to bed with the stomach nearly empty.

In the lymphatic complication, some latitude in diet may be allowed; that is, animal substances, moderately coagulated, and of a purely muscular character, may, (after the bowels are *regulated*,) be used in small quantities; should acidity abound, or a tendency to it



in the stomach be discovered, the use of animal food is not only allowable, but particularly applicable.

As auxiliary means in the cure, the earliest attention should be given to uniformity of temperature; the skin should be well protected against the unequal action of cold, during every stage of the treatment; and for this purpose, the wearing of flannel next the skin should be directed. Thus protected, under all circumstances of climate and exposure, the individual may, (as it is requisite he should do,) indulge in moderate exercise, and even pursue many of his ordinary avocations, with comparative safety. This suggestion will not be regarded as supererogatory, when it is recollected, that epileptic attacks often originate in a want or neglect of comfortable clothing; and every practitioner much conversant with the disease must have witnessed relapses from exposure to the causes of catarrh.

The remedy which we have been considering should be discontinued or suspended upon the accession, and during the continuance of any new or acute diseases; and when resumed should be commenced within medium doses.

Employed in either of its forms, the crust should be continued perseveringly, until a cure is effected, or a satisfactory trial of its powers has been made. In no disease, which "flesh is heir to," is it more important to inculcate patience during treatment than epilepsy, and the failures of medical practitioners in contending with it, are to be attributed to the disregard of this admonition, rather than to the incurable nature of the disease; we might mention also, a want of confidence in remedies, among medical men, as an obstacle in the way of satisfactory trials. In every successful case our remedy should be continued sometime after the convulsions have ceased to return; the patient cannot be considered cured until the general health too is restored, even if the convulsions have long subsided.

It is not pretended that the crust will prove remediate in every case of epilepsy, nor even in all such examples as are idiopathic; some of these may be so strongly engrafted upon the system, from long continuance of the disease, as to have become completely constitutional and fixed, and necessarily irremediable. In the case connected with organic lesions of the skull or brain, (could they possibly be distinguished,) we should never advise the crust; but as it must be confessed that such cases cannot be discriminated, it will be safest in every instance to give the remedy a fair trial, (more especially as it is not likely to aggravate the incurable cases,) and such has uniformly been our custom.

In obstinate cases the crust should be continued for more than a



year before it is to be discarded, or the case abandoned as incurable; both forms should always be employed and used alternately.

The crust in form of tincture is also a valuable nervine and anti-spasmodic in hysteric convulsions, and indeed in hysteria generally. In that variety, connected with or proceeding from uterine irregularities incident to sterile married, (or unmarried,) females, it will be particularly serviceable; with such the paroxysms most strikingly resemble epilepsy.

The singular efficacy of the crust in the treatment of epilepsy, its mild and peculiar qualities taken in connexion with the violent characters of the disease, have suggested the following pathological views and rationale of the action of the crust.

Epilepsy originates generally in infancy, and is to be esteemed rather a state of quiescent, than active disease, in which all the essential properties exist, the convulsions only marking that stage which should be regarded as its most active, or the spasmodic stage.

In the quiescent, as well as the actively spasmodic stages, irritation seems to obtain, and doubtless constitutes the pathological condition of the textures involved; it is not only the primary pathological condition of the tissue, but exists in different degrees in every stage of epilepsy, from the quiescent to the convulsive, and it is from this also that the morbid susceptibility results; it originates primarily in, and is chiefly confined to, the sentient extremities of the gastro-intestinal and encephalic nerves, in their motory relations with the muscles; it may result from, or be connected with, certain congenital organizations, peculiar to large heads, with or without precocity of intellect; or gastro-intestinal irritation, from the presence of worms, crudities, &c. or from dentition, or possibly all may be present and necessary to complete the epileptic liability. That a remarkable irritative excitability of mind and body, can be distinguished in a large majority of epileptics, both before and after the convulsions, will be conceded by all who are conversant with the disease. This irritation may also be the cause of those extraordinary developments of the brain and intellectual faculties in infancy and childhood. Once impressed, it is kept up and perpetuated by the numerous and diversified irritating causes incessantly acting upon infantile systems, and occurring while the textures are unfolding and organizing their respective vitalities; it may in some degree become incorporated with the structures themselves, as one of their properties.

Instituted in either of the nervous extremities, the irritation, (or convulsive susceptibility,) is extended to the other, thus completing the epileptic liability, or the passive stage of the disease. Why the



irritation of the passive stage invites, and subjects the system to active spasmodic movements, cannot be satisfactorily explained, unless we are permitted to suppose that the peculiar or motive nervous tissue in which it originates, and the excitation from which it seems to result, may impart to it this character or tendency. Originating in the nerves, the convulsive movements are extended to the muscles by the operation of new or irritating causes.

The epileptic susceptibility in a majority of cases, is first to be traced in the nerves of the gastro-intestinal mucous membranes; and is manifested by the early and frequent production of convulsions from ingesta, crudities, worms, &c.

As the intellectual organizations become more fully developed, the susceptibility may also be perceived in them, and now it is, that mental and moral causes may become the instruments of epileptic convulsions.

According to the foregoing views, epilepsy consists of two stages, the passive, (or what has generally been regarded the predisposing,) and the active, or convulsive stages; they differ only in the degree of violence and extent of the irritation, which is to be regarded as a unit. In the passive stage, the irritation seems to be confined chiefly to the sentient extremity, while the intermediate prolongations of the nerves are only invaded by a less degree, or the predisposing irritation; in the convulsive, all the organs and textures usually involved are equally irritated and excited. "Convulsions are not the disease, they are only symptoms of disease." In epilepsy they are not to be regarded as the disease itself, but the convulsive stage of it.

From the numerous post obit reports of cerebral lesions, and morbid appearances connected with epilepsy, it is not by any means established that the disease results from such local affections. ESQUIROL himself, although enjoying the most favourable opportunities for investigating the subject, has not been willing to refer the disease to an appreciable or definite cause, or to deduce the pathological conditions of the structures from the records of morbid anatomy. Lesions without epilepsy, similar to those met with in epileptic bodies, have been discovered in the brain, according to the researches and reports of WEPFER and LOREY, from which it may fairly be inferred that they are not invariable concomitants, as cause and effect. Such lesions are to be regarded "rather as the consequences of epilepsy than its causes." Our conviction is, that convulsive irritation of the sentient extremities, as well as the intermediate prolongations of the gastro-intestinal and encephalic nerves in their motive relations, generally induced by the action of occasional irritants upon the infantile



constitution, is the essential pathological condition upon which epilepsy depends, in a very large majority, if not in all of the cases.

The action of the crust in arresting and curing epileptic irritation, doubtless commences in the sentient extremities of the nerves of the gastro-intestinal mucous membranes: the remediate excitation it induces, differs essentially from irritation; it is the action of a nervine stimulant, exciting the irritated organism equally and pleasantly; the remedy may be regarded as a nervine roborant; the action is also antispasmodic, and approximates in its nature to the movements of health; and if the remedy be continued, it generally becomes the predominant excitation; being the predominant action in the sentient extremities of the gastro-intestinal nerves, the brain is soon brought into sympathy, which reflecting back upon these textures, a corresponding action not only fixes it in them as determined and established, but also in every other similar texture. In this, as in all other cases of remediate medication, the action begins in the part to which the agent is first applied, and the brain reflecting it back upon the organs first excited, or such others as may stand more particularly related to it, by natural or acquired sympathetic ties, determines and fixes the location of it. The primary excitations and the textures, whether in the establishment of diseased, remediate, or healthy actions, determine their character, while the brain fixes their locations. Morbid excitations do not always continue in their primary seats, but are directed and determined occasionally by the brain to other parts which chance to be more strongly predisposed, and consequently more intimately connected with, and influenced by it. Remediate impressions are also liable to a similar transfer, and cases have occurred in which such excitations have been determined and translated to the primary seats of irritation, greatly to the aggravation of the disease.

The action thus set up by the operation of the crust, and continued by reapplications of the remedy, becomes more and more firmly fixed and established by the associations which it is continually and progressively forming in the system; at length becoming predominant, it merges, or is lost in the actions of health. In this way we would explain the operation of remedies generally; when failures result, remediate agents either, have not been appropriately selected, or regularly and faithfully employed, or the primary irritation has been of such a violent nature, or so firmly engrafted in the textures and organs, as to be immoveable, and consequently irremediable, under any system or course of medication.

*Prince Edward County, Virginia, March 26th, 1835.*



ART. V. *Observations on the Cæsarean Operation, accompanied by the relation of a Case in which both Mother and Child were Preserved.* By JOSEPH G. NANCREDE, M. D.

A case having recently been conducted to its termination, the circumstances of which were thought to demand the Cæsarean section, and in which the operation was the means of preserving the lives of both mother and infant, it is deemed right to present its history to the members of the profession. The design of the narrator most assuredly is not to encourage the rashness of inexperience and ignorance, but to aid in establishing a just estimate of a measure, which is still considered by some one of the most equivocal resources of our art.

When a decided course of treatment has been adopted in any case of magnitude, upon whose indications standard authorities pronounce conflicting opinions, his duty to himself, as well as to the public, imperiously require of the practitioner an accurate and impartial statement of the facts. Justice cannot be rendered to himself, unless the arguments by which he was influenced be displayed, and his professional brethren may, with reason, expect the light to be exhibited, by which he has been conducted to a successful result, or an indication of the rocks upon which his hopes may have been shattered. To the Cæsarean operation these remarks apply with peculiar force. Neither elevated station, nor distinguished merit, afford any immunity from the dangers, out of which it presents sometimes the sole avenue for escape; dangers which, from their peculiar confirmation, involve in some degree, a large proportion of that sex, which furnishes so many examples of enchanting beauty, of captivating loveliness, of exalted worth, and whose patient endurance of suffering, elicits our warmest admiration and most cordial sympathy. The mind of every accoucheur should, therefore, if possible, be thoroughly informed in relation to this subject, that when the occasion shall call upon him to act, he may exhibit the prudence, the decision, and the self-possession, which will certainly be wanting, if his previous preparations have been defective.

Who first suggested or performed what is termed the Cæsarean operation? is a question not easily determined, nor is its solution important to our present purpose. That the division of the parietes of the abdomen, as well as of the uterus of a dead mother, to extract therefrom a living child, was executed in the earliest times, is a fact not to be denied, for it rests upon historical evidence. Under Numa Pompilius, the second King of Rome, it was enjoined by the law of



the land. Esculapius is said to have been thus extracted from his mother's womb by Apollo. The mode in which Julius Cæsar was born, has become the subject of some controversy, PLINY asserting that he was the first who thus entered the world, from which circumstance he derived a part of his name, *primusque Cæsar a cæso matris utero dictus*; whereas, SÆTONIUS contradicts this assertion, by declaring that both his grandfather and father bore his united names, and moreover, that his mother Aurelia was living when he undertook the war against the Britons. It has not at any time been contended, that the operation on the living subject, was thought of in those early times. We pretend not to decide this controversy, which historians may understand better than ourselves; but return to the more interesting question, the origin of the Cæsarean section on the living subject. No positive evidence can be found of its performance prior to the end of the fifteenth century, about eighty years before ROUSSET published his treatise on gastro-hysterotomy. GASPARD BAUHIN tells us, that at that period, it was performed by a dog shearer, who, in his anxiety to relieve his wife, suffering a long and painful labour, had the strange humanity to open her belly, to expedite delivery.

From that period down to the present day, this operation appears to have assumed its regular position, as one of the methods resorted to by accoucheurs. It has been repeatedly performed in Continental Europe and in Great Britain with various success. BAUDELOCQUE, whose authority in a question of this nature is of universal acceptance, states that one out of two operations is successful. Yet it is proper to observe, that this estimate is to be taken as applied to Continental Europe; for an unusual fatality has evidently attended it in Great Britain. We are informed by BURNS, in his Principles of Midwifery, that out of twenty cases occurring in that Island, the histories of which are recorded, one only had proved successful to the mother, and ten to the child. According to Dr. HULL, a later authority, out of two hundred and thirty-one cases recorded, one hundred and thirty-nine had terminated favourably, which is rather more than one-half. From the above statements, it is evident that a wide disproportion exists in the results of this operation, when in the practice of British and continental surgeons. There is reason to believe that the failure on the part of British surgery is to be ascribed to the period at which the measure has been resorted to. When the strength and nervous energy of a patient has been exhausted by a long and fruitless labour, and a predisposition to peritoneal inflammation induced, even if the flame has not been actually kindled, it is easily conceived, that the impression made by so important an operation is likely to be of an



unfavourable nature. On the continent, the operation being usually performed at an early period, the risk attending it is greatly diminished.

That there are cases in which the diameters of the pelvis are so contracted, as to present a physical impossibility to the passage of the child, is admitted by all who have practised midwifery. To overcome the difficulty encountered in such instances, cephalotomy, the division of the symphysis pubis, and the Cæsarean operation, have been proposed by writers of high authority in midwifery.

It has been suggested, and with great propriety, when the disproportion between the head of the child and the pelvis of the mother is such as to prevent delivery by the usual efforts of nature, even assisted by art, when the child is not alive, to reduce the size of the head by opening its cranium in the first place, and thus delivering a mutilated infant, *per vias naturales*. In some instances, this process has been advised and acted upon, in cases where the child was alive, but in which it became a matter of duty to resort to this mode, to save the life of the mother. Yet this operation is not unattended with danger to the mother, for it will easily be admitted, that in a contracted and deformed pelvis, the operation of instruments in the uterus must inevitably wound, contuse, or lacerate, either that organ itself, its appendages, or the bladder, in a greater or lesser degree. Post mortem examinations leave no doubt on this point. Besides, who can say, *a priori*, what effect is to be produced on a nervous or otherwise irritable constitution, by the exhaustion consequent upon a cautious and humane use of the instruments required first to break up the bony structure of the head, and next to extract it piece-meal from the uterus?

Dr. BAUDELOCQUE, of Paris, a nephew of the late celebrated accoucheur, has lately invented an instrument, which he reports, is to effect what we have just described, with facility and rapidity. But as the instrument, designated Cephalotribe, though described in a late number of the *Baltimore Medical and Surgical Journal*, has not, as we believe, yet reached this country, its application is still a desideratum to the American practitioner. However, even admitting its success, there will yet occur cases in which the extreme contraction of the pelvis will render the use of the method just alluded to entirely nugatory.

The capacity of the pelvis being then found entirely insufficient to allow the passage of even a mutilated infant, no alternative is left but to form a new outlet for the child, by cutting through the abdomen and uterus. There are occasionally cases in which a resort to



one or the other of the two last described operations is evidently pointed out by the nature of the circumstances; but there will sometimes occur, as in the case now before us, instances in which the Cæsarean section is the only resource left to save the life of the child, while it does not add to the danger of the mother.

The history of this operation in this country is far from complete; that it has been repeatedly performed, there is good reason to believe, but I am not possessed of such evidence on this subject, as can fully warrant the assertion. I have searched in vain the medical records within my reach for the histories of such cases, and with the exception of a very extraordinary one contained in the *Western Medical Journal*, and published by Dr. RICHMOND, of the state of Ohio, in which the mother was saved, but the child destroyed.

From information obtained from two most respectable medical friends, it is certain that the same operation was performed by Dr. M'KNIGHT, in New York, about the year 1792, but with what success, neither of the gentlemen alluded to could say.

Through the kind assistance of my friend Dr. W. S. COXE, of this city, I have obtained from Dr. S. JACKSON, of Northumberland, in this state, a short account of two cases in one of which the Cæsarean section was performed, and in the other the abdomen laid open, but both under circumstances peculiarly unfavourable, and which terminated fatally. The first case in the order of time, which was attended by Drs. DOUGAL and VANVALRAH, was one of ruptured uterus.

The child and after birth had passed through the rupture, and were easily removed when the abdomen was opened, but inflammation speedily supervened, and the woman died on the third day. It is not mentioned whether the child was alive or not, but as several hours had elapsed from the rupture of the wound until the section of the abdomen, and consequent removal of the child, its death is to be inferred. The second case was one in which a contracted pelvis, (so revealed by examination after death,) presented very insuperable obstacles to the passage of the child. The same gentlemen had charge of this patient. After endeavouring to remove the child by means of the forceps, recourse was had to the crotchet, which having also failed, nothing but a temporal bone having been extracted, the Cæsarean operation was then proposed, (in the afternoon,) but the patient would not consent to have it performed until the next morning. It proved unavailing, and the patient died of inflammation on the fifth or sixth day. These two cases occurred, one in 1827, and the other in 1832, in the vicinity of Northumberland, Pennsylvania.

There is an impression on the minds of some of my senior medical



friends, that a case of this operation occurred some years ago in Lancaster, Pennsylvania. Should these pages reach the eye of any one of my medical brethren conversant with the existence of such a case, it may be in his power to fill up a hiatus on an interesting question.

The second volume of the New York Medical and Physical Journal, for 1823, contains an account of a case of self-performed Cæsarean section, by a servant mulatto girl, fourteen years old. From the statement of Drs. S. M'CLELLAN and BASSET, who dressed the wound immediately, and attended the patient, it appears to have been a case of twins, and to have ended successfully for the mother, though nothing is said in relation to the child. This case, which occurred at Nassau, state of New York, is published at the request of the Rousselaer County Medical Society.

Finally, a friend of great intelligence and respectability, holding a responsible official situation in Louisiana, now on a visit to this city, mentions as a fact, that the operation has been repeatedly and successfully performed in that country, but more especially within the last ten years, several times by Dr. PREVOST, of Donaldsonville, Louisiana. My informant also states, that he was in the house on one occasion, while Dr. P. was performing the operation on a mulatto woman, for the sixth or seventh time, which however terminated fatally, though it had been successful on the same patient several times before.

Such was the state of the question, when in September, 1834, I was first consulted by Mrs. R. She has attained her twenty-sixth year: her father and mother were both healthy and well-formed. She has two sisters, one of whom is married and the mother of three children, who were born without unusual labours; and she has also two brothers of the usual proportions. Mary R. at the age of about one year, fell from a chair, and injured her back so severely, that for two years afterwards she was unable to walk, or even bear her weight on her feet. A variety of remedies were resorted to, and finally she was sent to the sea shore, whence she returned, improved in health and strength, and gradually acquired the power of walking, though in so doing she evidently deviates a little to the left. She is smaller in stature than her sisters, being under the middle size, probably about four feet and a half, but in other respects her appearance would not attract particular attention. The bones of the lower extremities, however, exhibit a considerable curvature, and the pelvis externally presents a large depression in the region of the sacrum.

Mrs. R. was married May 16th, 1830, and had attained without



any unusual symptoms the full period of her pregnancy, in June, 1831. At this time she became the patient of Dr. GEORGE FOX, of this city, when in consultation with a number of medical gentlemen, including Professor JAMES, Drs. HEWSON, LUKENS, R. BARTON and MEIGS, it was determined unanimously, and upon accurate investigation, that the antero-posterior diameter was certainly not more than two inches, and probably not more than one and three quarters. Under this conviction, the consultation considered the three modes of relief which the science of midwifery affords in similar cases, and though the Cæsarean section was suggested, yet to use the words of Dr. Fox, from whose published statement of the case I have borrowed some of these details, "it was thought to be attended with so much risk to the mother, as almost to be necessarily fatal, some of the most distinguished surgeons being decidedly opposed to its performance."

It was therefore abandoned, and cephalotomy ultimately determined upon. Fortunately for the gentlemen engaged, life had ceased in the infant before the operation was commenced. It was one of the most painful and distressing that can be imagined, and was attended with the greatest possible danger to the mother, notwithstanding all the care, humanity and patience of the gentleman whose unremitted exertions finally removed the foetus. Nor was it possible, with all these advantages, to effect the delivery, until the texture of the soft parts connecting the bones of the foetal cranium had been softened by putrefaction.

In three weeks from this date, so rapid was her recovery, she was able to be down stairs and walking about.

The second pregnancy terminated in June, 1833. Dr. Meigs, who had delivered her in the first labour, had also charge of her in this. From some remarks on Deformed Pelvis, published by him in the *Baltimore Medical and Surgical Journal*, for 1834, it appears that Drs. DEWEES and MEIGS had advised in this case premature labour, when the Cæsarean operation had been refused. But neither being acceded to, Dr. M. was under the necessity of opening the head of the child by means of the trochar or drill, and then, as we suppose, removing the portions of bone by means of pliers. We are not informed in this paper, if the child was alive, nor of the amount of time consumed in the delivery; but Mrs. R. states that it was much more rapid, and much less painful.

After hearing from Mrs. R. in September, 1834, her detail of the two labours she had gone through, the facts of the case were maturely weighed. No means were neglected that were likely to assist in arriving at a just conclusion. After investigating the various



authors whose writings have contributed to shed light upon this subject, and consulting many friends, whose research, judgment, and experience, were such as fully to entitle them to confidence, and among others, Professor Dewees, whose superior in this department is not to be found in this country, or perhaps not in any other, and in whose views I found a most gratifying coincidence with my own, I became entirely satisfied as to the course to be pursued.

The extreme reduction of the dimensions of the pelvis, as already determined by the several gentlemen present at the first labour, was such as to leave no reasonable hope of safely delivering a child of seven months, by exciting premature labour, as recommended by Dr. DENMAN, and as practised in this city by Professor JAMES. I therefore determined, that in the event of the child dying at, or before the full period of gestation, the crotchet would be the only warranted means of effecting delivery. If, however, the infant should still be found possessed of life, I was taught by the experience of the first labour, that this instrument could not be safely and effectively employed, until sufficient time should elapse to permit the child to be destroyed by the contractile efforts of the uterus, and to allow putrefaction to weaken the consistence of the media connecting the bones of the cranium. I was, however, convinced of the impropriety in this, the third labour in the same individual, of permitting such a sacrifice of life to an innocent being, who had a just claim to the benefit of my professional exertions in its behalf, and still more so of the injustice and sin of perforating its head before the extinction of life. I believed moreover, that the delay necessary to effect its death by the powers of the uterus, and to allow a sufficient advance of the putrefactive process, would involve the mother in dangers, from which it was barely possible, and certainly not probable, that she would again escape, while either of the courses designated, implied certain destruction to her offspring. On the other hand, the Cæsarean section, if executed soon after the commencement of natural labour, before the energies of the patient should be materially impaired, and before any additional disposition to disease should be induced in the uterus, or the parts in its vicinity; held out, as I honestly believed, a good prospect of saving the child, and a better one for the parent than the alternative already specified.

My own opinion being thus formed, and being satisfied as to its correctness by the according views of my professional friends, I proceeded to secure to my patient the benefit which might be expected from accessory and varied professional skill. Having for some years relinquished, in a great measure, the use of the knife, I applied to my friend, Professor GIBSON, who, standing at the head of the sur-



gical department of the profession, and coinciding in my views as to the eligibility of an operation, to judge of whose propriety, did not strictly fall within his peculiar province, was kind enough to undertake its execution. My health being precarious, and uncertain as to what would be its condition when labour should commence, I engaged another friend, Dr. F. S. BEATTIE, in whose judgment, skill, and prudence, as an experienced accoucheur, I repose the highest confidence, to assist me, and even to act as my substitute, in case my own situation should render such a change expedient.

Having thus prepared myself for the approaching period, I awaited with as much tranquility as I could command the commencement of the parturient effort, and carefully abstained from informing my patient of the course I intended to pursue. The anxiously looked for moment at last arrived. On the evening of the 24th of March, 1835, I requested Dr. Beattie, who had not yet seen the patient, and who in my absence might be called upon to take charge of the case, to visit Mrs. R. with me. At this visit I examined her with care, and was struck, as was Dr. Beattie, who also examined, with the distended state of the os uteri, and the presentation of the waters, forming already a protuberant tumour. Although there were no pains, I felt apprehensive of immediate labour, and desirous of preventing, if possible, its occurrence in the night, I requested the patient to remain in bed, to move as little as possible, and to take thirty drops of laudanum. I now apprized my medical friends of the state of the case, and requested their coöperation as soon as I might summon them, more especially in the night. But we were allowed to wait until next morning, when, at about 10 o'clock, I was called to see her. I found her in bed, in accordance with my recommendations. She informed me, that she had taken the anodyne the night previous, but that it had not prevented her suffering a continuation of slight, but regular labour-pains. The waters had not yet come away, but the nature of the pains evidently pointed out confirmed labour. In the course of the forenoon, I requested the presence of the medical gentlemen interested in the case, and as the pains did not increase with any rapidity, 3 o'clock, P. M. was fixed upon as the hour for meeting at the house of the patient. The propriety of the operation having long been agreed upon, the next question was to apprise the patient of it, and to obtain her consent. This I had some difficulty in accomplishing, but after wasting a couple of hours in persuasion, in which I was aided by the influence of my respected friend, the Rev. John Hughes, I had at last the satisfaction of hearing her say that she was resigned, and was now ready. No time was lost, and the patient having taken an anodyne, was placed on a table, covered with a mattress; her shoulders elevated and properly secured, in the pre-



sence of Drs. DEWEES, HORNER, BEATTIE, DOVE, of Virginia, W. S. COXE, T. DEWEES, Mr. C. B. GIBSON and myself. Dr. GIBSON, armed with a straight bistoury, standing on the right side of the patient, commenced the operation at about half past 5 o'clock, in his usual cool and determined manner. He at once made an incision about six inches in length, through the skin, in the direction of the linea alba, extending it through the cellular substance and tendinous aponeurosis, and passing between the recti muscles. The peritoneum now exposed, was also divided, and exhibited the globular uterus covered by its serous envelope. This organ was next carefully and partially opened, until the membranes enveloping the child appearing, an effort was made to rupture them, and evacuate the water by the vagina. To facilitate the task of the surgeon, by enabling him to cut through a distended uterus, it had been thought desirable that the waters should remain in their sac, until the division of the organ should have been made, or partially made; accordingly, I now introduced a finger into the os tincæ to rupture the membranes, but owing to the absence of contraction in the uterus, the sac did not present in such a manner as to enable me to effect this without the use of more force than it was deemed prudent to employ at this critical moment; it was therefore determined to allow the fluids to escape by the incision. Accordingly, as the section of the organ was completed to the necessary extent, the membranes being divided, the waters were discharged, and the child brought into view. The position of the child exhibited a breech presentation. The hand being introduced into the uterus, the inferior extremities were seized, the child withdrawn by the feet and body, and the cord tied. After a short delay, to give the uterus time to contract upon the secundines, the hand was again passed through the wound, and the placenta, with the membranes extracted. This done, a finger introduced through the vagina reached another, inserted into the uterus through the wound, and thus established a free passage for the lochia.

The child so remarkably introduced into the world, was found to be a female, alive, and of a healthy appearance. It required, however, some time and effort to establish complete respiration. In the interval the divided parts were carefully brought into close contact, and the external wound closed by points of suture and strips of adhesive plaster; the whole supported by a roller. The patient was then removed carefully into her bed, and after taking another anodyne, left to rest. The whole operation did not last ten minutes, and caused so little sensation to the patient, as scarcely to elicit a groan. The pulse when we left her, was at about 80 pulsations in a minute. At 9 o'clock, P. M. saw her again, and had the gratification of finding her easy, with the same pulse, and inclined to sleep.



Drs. Gibson and Beattie met me the next morning, 26th, at half past nine, when we ascertained that she had passed a comfortable night, suffering little or no pain. Her pulse was then 85. The roller was saturated with bloody fluid, of which a considerable quantity had oozed out on the sheet. The lochial discharge was less in quantity than usual, but an examination per vagina, showed that a free passage existed. Her linen was changed, and her position altered and made comfortable in the bed, but she was strictly enjoined not to move on any account from the recumbent posture on her back. Barley water was the only article allowed to pass her lips. At 4, P. M. Dr. Gibson again met me. The temperature of the room had been most injudiciously elevated, and the pulse of the patient had consequently reached 105. There was no pain; abdomen soft; hæmorrhage ceasing, (it deserved that name,) and lochial discharge natural. She has passed urine, but has had no alvine evacuations. The skin is moist. Barley water and quiet are the only recommendations. At 10, P. M. I saw her again; the temperature of the room, now regulated by a thermometer, is reduced to 66. The skin of the patient continues moist, while the pulse is reduced to 90; complains of no heat or thirst, but is fatigued with the position on her back; she can bear moderate pressure on the abdomen; lochia continue, with considerable after-pains. She is directed to take acetat. opii, gtt. xv. and barley water.

*March 27th, 10 $\frac{1}{2}$ , A. M.*—Drs. Gibson, Beattie, and Coxe, met me this morning, and found our patient quiet and easy, having slept all night, until three this morning. Pulse is at 94; the milk has made its appearance, and the child nurses quite freely; the mother complains occasionally of after-pains. Acetat. opii, gtt. xij. 4 o'clock, P. M. Pulse 90; skin comfortable; she has passed urine, and the lochial discharge is abundant.

*28th, 10 o'clock, A. M.* Drs. Gibson and Beattie visited the patient with me this morning. We found her easy: she has slept through the night with some interruptions. Pulse 100; abdomen soft. Upon the whole, her day has been a quiet one. Saw her again at 5 o'clock, P. M. and found her easy, with a pulse of 94. Visited her again at half past 10, P. M. Our patient says she is quite comfortable, though troubled with flatus and some after-pains, but the pulse remains soft and about 90. Directed acetat. opii, gtt. xij. and camphor tea.

*29th.* Called up at 5 o'clock, A. M. Mrs. R. has suffered since 4 o'clock this morning severe pains in the iliac regions. Pulse is now tense and small, beats 110 in a minute. There is no tension of the abdomen, but considerable tenderness on pressing its lower portion. I now directed venæsectio,  $\text{℥viii}$ .; forty leeches, and an enema with flaxseed decoction. 9 $\frac{1}{4}$  o'clock, A. M. Met Drs. Gibson and Beattie. Found



the blood sizy; enema had produced no effect, but the abdominal pain is somewhat relieved by the bleeding. The leeches produced a very full evacuation of blood. Calcined magnesia, 3j. in camphor water. The abdomen is soft, and now bears pressure better than at 5 o'clock. Pulse 125; lochia not as free as yesterday, with flowing, and child nursing well; has passed urine. 3¼, P. M. Pulse continues full, 108. The patient is considerably relieved of the pain in the iliac region; troubled with flatus; abdomen slightly distended and sonorous, but its tenderness on pressure much diminished. Venæsectio, ʒviij.; no effect from magnesia. 10 o'clock, P. M. Has had a passage natural in its appearance: she is easy, and only complains when eructations occur. Pulse is 112; emollient enema and emplast. mel. vesicat. to cover the whole abdomen.

30th. Pulse 112; has slept well the greater part of the night; blister has risen well, and without any strangury, (it was prepared with scalded cantharides;) skin and tongue both natural.

31st, 10 o'clock, A. M. Pulse 112, has varied in the night from that to 104; abdomen flat and quite soft; complains of no pains but from lying. Applied adhesive plaster to the sacrum, which is rather red, from continued pressure on that spot, and directed carb. magnes. 3j.; has had no passage. 5 o'clock, P. M. Pulse 112; the patient is entirely free from pain, but has had no passage, although she kept the magnesia directed this morning; it produced some nausea. Directed an enema. 9 o'clock, P. M. Pulse 115; has had five passages, which do not appear to have weakened her; has no pain, but abundance of milk.

April 1st, 10 o'clock, A. M.—Pulse 112; soft skin; wound is discharging a little healthy coloured pus; the abdomen is quite flaccid; and the patient has appetite. 5 o'clock, P. M. and 10, P. M. Continues equally well, but has had no passage. Directed acetat. opii, gtt.

2d, 9½ o'clock, A. M. The patient continues well, with pulse at 108; no passage; slight discharge from wound; lochia natural. 5 o'clock P. M. No change from the morning; pulse 104; wound looks healthy; enema to open the bowels. 10 o'clock, P. M. Has had two passages from enema. Acetat. opii, gtt. viij. During all this period the patient lives on barley water and black tea.

3d, 9½ o'clock. Pulse 106; has passed a quiet night; incision discharges a little; patient clamorous for food. In addition to her present allowance, she is permitted to take the soft part of two oysters and half a cracker. 5 o'clock, P. M. She is yet hungry; two more oysters and half a cracker. Pulse 116.

4th. Pulse 100; appetite continues to increase; abdomen soft and free from all tenderness on pressure; blister is more troublesome than the wound; she takes chicken water and oysters.



5th. Pulse 96; removed adhesive plaster and find healthy granulations closing up the divided parts; discharges from its lower part only.

6th and 7th. Pulse 88; symptoms continue to improve, and the wound is closing; the discharge is also lessening; she continues on her back, though she is occasionally moved in the bed.

7th and 8th. Pulse 96; the wound is now closed in two-thirds of its extent, leaving a space of less than one inch, yet discharging, but every day filling up. Continues oysters, chicken soup and a fresh boiled egg.

9th. Has had a natural passage without injection; pulse 90.

12th. The favourable state of the patient continues without interruption; the wound is now about the size of a ten cent piece, slightly discharging; patient desirous of sitting up.

15th. Pulse 84; the daily improvement in the appearance of the wound continues; it is now nearly cicatrized.

20th. Patient anxious to get up. Is entirely well, and the wound almost entirely closed.

22d. She is allowed to sit up. This is the fourth week from the operation; and this week my patient is allowed to go down stairs, the wound having now entirely closed, with the exception of an opening almost imperceptible, perhaps the size of a pin's head. This continued until the first day of June, when the cicatrix was perfect in every respect.

In closing the narrative of this case, full of important inferences of a practical character, but which the nature of these observations preclude me from extending any further, I merely wish to call the attention of my readers to one fact, that the presentation as recorded was not one of the head. Now, supposing for a moment, that cephalotomy had been determined upon, would not the danger of the patient been much increased by that operation, even admitting its possibility? For the body of the child might, perhaps, have been extracted, but surely the head could not have been removed, without reducing its size. How difficult this must have been under such circumstances, none but an experienced accoucheur can conceive. Would it not, in all probability, have separated from the trunk, and when this state of things had occurred, might not the Cæsarean section still have been indispensable for the removal of this head; but the Cæsarean section deprived of its chance of success by a tedious labour, and the other untoward attendants of exhaustion and discouragement?\*

\* By reference to the fourth volume of the Memoirs of the Medical Society of London, there will be found a letter from Dr. James Mease, of this city, to Dr. Lettsom, containing an account of Dr. M'Knight's case of operation for the removal of an extra-uterine conception, which, of course, establishes the nature of that case referred to in the preceding pages.



ART. VI. *Some Observations on Mania a Potu, with two Cases.*  
By C. A. PORTER, M. D. etc. of New York.

A. M. of sanguine temperament, after an excessive debauch, had violent mania. It was with extreme difficulty that three strong men could confine him. His face was intensely flushed; head very hot; veins of the head and neck greatly distended. The extreme wildness of the patient rendered bleeding, which was strongly indicated, inadmissible.\* At the suggestion of our friend, S. A. WICKES, M. D. of Maryland, who kindly saw the patient with us, we determined to try the effect of making a decided impression upon the rectum, and directed the following enemata. R. Pulv. jalap., pulv. socot. aloë, āā. ℥j.; Sulphas sodæ, ol. terebinth. āā. ℥j.; Tepid water, Oj. This to be speedily followed by a simple stimulating enemata. This treatment caused several copious evacuations, and quieted the patient very considerably. There was no difficulty now in depleting him by cups, freely applied to the temples and nape of the neck. After this, a single dose of tinct. opii, gtt. lx. put him in a deep and tranquil sleep, from which he awoke the succeeding morning perfectly rational.

The second case was one of mania a potu, in which the various preparations of opium had been most liberally administered, and without effect: the patient not sleeping any appreciable quantity, by day or night, for the space of six days, and manifesting a strong desire to go out; we directed him to be walked in the open air, until he complained of being fatigued. He was very glad to return to his bed; sulph. morph. grs. j. was now given; the patient had a refreshing sleep, and was restored to health.

Whilst we admit the superiority of a stimulo-narcotic plan of treatment over any other for this disease, we are confident that a blind adherence of it cannot but lead to doleful consequences. Many are the times that we have given grain after grain, until the patient has taken from grs. viii. to xiii. of sulph. morph. without the slightest tranquilizing effects. On the contrary, it only made him wilder. In some of these very cases we have interposed small general bleedings, ℥viii. to ℥x. with the most happy effects; after this sulph. morph. grs. j. or at most two, would put the patient asleep. That a certain

\* At this time the institution was not in possession of Dr. Rush's admirable chair for confining maniacal patients. At the suggestion of Mr. Gillespie, nurse of the maniacal department, whose indefatigable exertions and disinterested kindness saved the life of many an inmate, the author of this paper introduced it.



condition of the system is requisite before narcotics will prove beneficial, every one, we think, at all conversant with the disease, will admit. Thus the experienced physician will reduce much heat of surface, particularly of the head, before administering narcotics. Again, he will be careful by the timely use of diffusible stimuli to maintain a necessary degree of heat. Never has the all-important, truly practical injunction, to treat symptoms, not the name of a disease, been more disregarded, than when treating the disease under consideration. But we have extended our remarks beyond what was our intention. The few suggestions we have ventured are drawn from nearly one hundred and fifty cases, which came under our care while residing in the Philadelphia Alms-house Hospital.

Hereafter we may present a full and minute account of our cases. Confident we are that for extent and variety of practice no institution in our country offers a wider field. May we not hope that the good example set by the resident physicians and surgeons of the New York and Philadelphia Hospital, of regularly reporting their cases, will be followed by those of the Philadelphia Alms-house Hospital. To themselves and the profession at large the advantages would be incalculable.

ART. VII. *Cases from the Note Book of* LYMAN BARTLETT, M. D.  
of New Bedford.

CASE I. *Dipsosis*.—James Webb, Fairhaven, aged forty, (married, cooper.) This individual states that since his earliest recollections he has drank daily about twenty-four quarts of water. He sometimes drinks more than this, but very seldom less. He could drink several quarts more per day, without feeling inconvenience from it. I have seen him drink five pints at a draught, without apparent inconvenience. Thinks his drinks exceed somewhat in quantity his urinary secretion.

Although he is a man of acknowledged veracity and respectability, to put the supposition of imposition at rest, on the first of January, 1835, I requested Mr. E. WELLS, (a medical student,) and another gentleman, to watch him for forty-eight hours. The man pursued his ordinary business, and drank as usual. The result of their observation was a full corroboration of Webb's statements. He drank in the forty-eight hours forty-eight quarts; quantity of urine forty-four quarts. The urine is of a pale colour, tasteless, not coagulated by boiling or by acids. If much restricted in the quantity of drink, he experiences a sensation of extreme thirst, and the general symptoms of fever.



With the exception of a fever which he had some few years since, he has always enjoyed good health. He is an active mechanic, and supports a wife and three children by his manual labour. The expression of the countenance is rather heavy; skin pale, and naturally moist; the temperature of the body equable, but lower than that of most persons in health. The other functions of the body regularly performed.

CASE II. *Wound of the Jugular Vein.*—November 25th, 1834. M. Augustus Zurlindin, (New Bedford,) aged four years, while running across the floor with a penknife in his hand, tripped his toe, and fell upon the blade, which entered the neck over the seat of the large vessels, just back of the thyroid cartilage. I saw him in about five minutes after the accident, and found venous blood flowing in a full stream. Quantity of blood lost, by estimation, ten ounces. The bleeding was stopped by a moment's compression with the finger, and the wound afterwards dressed with a bit of adhesive plaster.

29th. Has been kept quiet within doors upon a low diet since the accident; has manifested nothing different from his usual health and playfulness until last night, when he complained of some pain in the neck, and thirst; was rather restless. Now the neck is somewhat tender to the touch over the seat of the large vessels, from the wound to the clavicle, perhaps a little swollen; tongue thin, white coat; some thirst; no appetite; skin rather warm and dry; restless; no dejection since yesterday; pulse 100. R. Ant. tart. gr. x.; Magnes. sulph.  $\mathfrak{z}$ ss.; Aq. f.  $\mathfrak{z}$ viiij. ft. sol. Take f.  $\mathfrak{z}$ iiij. every hour. Lotion of alcohol and water to the neck. At 6, P. M. he had vomited twice, and had two dejections; skin warm and moist; pulse 90; less restlessness.

30th. Very restless through night; rolling about the bed, and complaining much of thirst. Countenance anxious; tongue covered with a thicker and darker coat, and dry; pulse 120, 125; one dejection; skin as yesterday morning; feet cool; neck appears the same, complains of pain in it. Apply six leeches to the neck. Sinapisms to the feet. Continue sol.

December 1st.—Was more quiet after leeches till 9, P. M.; slept some. At 10, P. M. had a severe chill; short, quick breathing, and frothing at the mouth; low muttering delirium through night; now lips dry; some sordes on teeth; tongue dark coloured and dry; skin rather warm and dry, but at times moist; appearance of neck not altered; pulse 130. At 6, P. M. was seen with Dr. SPOONER. Leeches repeated. Cathartic of calomel and jalap.

2d. Has continued much the same; delirium rather increased; no



relief from leeches; two dejections; pulse 140; two paroxysms of chills, &c. more severe than the first. He continued much the same, except with increased frequency and severity of the paroxysms, till December 3d, 10, P. M. when he died in one of them.

*Dissection.*—On examination after death, it was found that the knife passed through the internal jugular vein to the lateral spinous process of the vertebra, opposite the thyroid cartilage. Between the sheath of the vessels and the spinous processes of the vertebra, was found an abscess extending from about an inch above the wound, down as low as the clavicle, and containing about six ounces of pus. Within the sheath of the vessels effused, coagulated blood was found extending down to the pericardium; this effusion extended a little more than an inch above the wound. The wounds in the vein were closed by the adhesive inflammation, and the calibre of the vein so much contracted at this point, as to admit the passage of little more than a common-sized probe. The vein showed marks of inflammation for about two inches above the wound, and downwards it extended quite into the heart. For the space of two inches below the wound, there was some appearance of ulceration within the vein. The vein contained a firm, strong white cord of coagulum, extending from the wound into the right ventricle of the heart. This was so large as nearly to fill the jugular vein, and in many places adhered pretty firmly to it. The third or half of the pericardium next the base of the heart, showed marks of high inflammation.

CASE III. *Wound of the Face and Jaws from a Circular Saw.*—February 19th, 1835. Leonard Rogers, (Dartmouth,) aged twenty-one years, while tending a shingle-mill, the circular saw was by some means thrown out of gear, and whirling, struck him obliquely in the face, making a wound passing externally from the bottom and right side of the chin, through the lips, across the outer part of the wing of the left nostril, over the cheek bone, and above the zygomatic arch to within about an inch of the meatus of the left ear. The saw tore out the front teeth of the upper and lower jaw, cut out the gums and bone of the lower jaw, a little lower than the sockets of the incisors, cut deep through the upper jaw and roof of the mouth, and through the molar bone into the angle formed by the temporal bone, and zygomatic process of that bone. All the teeth of the left upper jaw were either torn out or broken off, with the exception of the last molar and second bicuspid. The latter was contained in a large fragment of the upper jaw, which was sawed off and left adhering to the cheek. From the mouth, the finger in its whole length was passed freely through the roof of the mouth, cheek bone, &c. out at the temple.



There was a good deal of hæmorrhage from several small arteries, these were stopped by torsion. The whole loss of blood estimated at forty ounces. Several fragments of bone and teeth were removed; the molar bone, (which was broken through without loss of substance,) was replaced; the fragment adhering to the cheek was suffered to remain. The lips were now brought together each by two hare-lip sutures. There were several pretty severe lacerations lateral to the main wound, one of which passed quite through each lip, and prevented the possibility of bringing them into perfect shape again, although the deformity is now inconsiderable. These lateral lacerations required confining by stitches. A stitch was taken at the wing of the left nostril, one over the cheek bone, and another over the temple. The intermediate spaces closed by adhesive straps. The lips and cheek were now further supported by the application of a hare-lip bandage. He was very weak from the loss of blood; fainting whenever raised in bed. Took nourishment by means of a small flexible tube passed between the lips.

The teeth, gums, &c. being lost from the front of the lower jaw, the saliva oozed through the wound in the lower lip for two days, but not afterwards. On the sixth day after the accident, the bandage and stitches were all removed; the wound was found united by the first intention in its whole extent externally, with the exception of about an inch above the wing of the left nostril, and the same extent on the temple, at which places suppuration had commenced. The wound was now dressed by adhesive straps and bandage as before. On the twelfth day from the accident, the wound was entirely healed externally, and the wound in the roof of the mouth was now found nearly closed; but two small pieces of bone were projecting and removed. The large fragment containing the bicuspid tooth was moveable, but on the twentieth day from the accident it had become firmly united to the upper jaw, and the whole of the wound perfectly healed. He now suffers no inconvenience from the injury, except the loss of teeth. His speech is scarcely at all affected.

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ART. VIII. *Case of Raccornissement, with Remarks.* By ALEXANDER L. BARON, of Charleston, S. C.

DURING the winter of 1831-2, at which time the Marine Hospital of this city was under our charge, Thomas Butler, a native of New York, a sailor, was admitted into the surgical wards of the institution. The individual was of robust make, aged about fifty years, and



of intemperate habits. On examination it was found, that while intoxicated, he had fallen asleep near a fire, and that such had been his state of insensibility, that a considerable period of time had elapsed, before he had perceived the extent of injury he had received. We found that both of his legs, from the knees downwards, had been severely burnt; insomuch, that amputation of one, after consultation with gentlemen of eminence, was deemed absolutely necessary, and was accordingly performed as soon as practicable. The other leg, although not so seriously injured, had, nevertheless, sustained considerable destruction of the soft parts; large sloughs had formed, one of which, on the knee, was nearly four inches in diameter. To this leg we adapted the usual treatment. The amputation was performed above the knee, the injury having extended fully up to that point. The stump required a much longer time than usual before it had become completely healed, although every effort was made to induce as speedy a termination of the case as possible. Not only, however, was the duration of the case unusually prolonged; in spite of every precaution and means which was adopted, the stump presented finally an unseemly appearance, was irregularly contracted, even to deformity, and no doubt, if the individual be still alive, figures as a reproach to the operator, and as a voucher of his want of skill and good management, with those who are unaware of the history of the case. As regards the other leg, the ulcerations remained unhealed for a considerable length of time. When this was effected, however, equally extensive and obstinate contraction of the skin was the result, insomuch, that it was not possible to flex this leg completely on the thigh. The indomitable character of these contractions was evident to all who witnessed the progress of the case, and was the subject of frequent remark by us to the students who visited the institution when under our controul. We have refrained from giving the minutiae of the case, inasmuch, as our object is simply to draw attention to the contractions alone alluded to; while we offer the following remarks as an accompaniment, hoping thereby to elicit from the profession stricter inquiry than has hitherto been made on the subject of that peculiar property of animal tissue, stiled *raccornissement*, as influencing the progress and ultimate cure of such injuries as result from the action of violent heat, or acids, &c. The case above given, is strikingly corroborative of this influence, although by no means remarkable for any obvious singularity or novelty. Before adverting to it more minutely, we would premise a few observations which are necessary to our elucidation.

The legitimate object and design of physiology, as exhibited in its



investigation and explanation of healthy functional performance, is not the only prominent feature which characterizes it as an important and highly interesting branch of medical science. We are irresistibly led to admire also the almost universal applicability of its fundamental principles to the examination of pathological conditions of the economy; and to this last we are the more forcibly induced to consent, whenever we are called on to make inquiry into the nature and character of various abnormal acts and their results, as compared with established normal acts or functions, and their consequences, occurring in the sound and healthy organs. We shall endeavour to point out this application as referable to that peculiar pathological condition of the external cutaneous system, characterized by indomitable contraction and corrugation of the same, which results from and constitutes one of the most unmanageable sequences of the action of violent heat or acids on the tissues composing this system. In other words, we would show that this formidable condition is, in fact, the consequence of the exercise of, and is capable of being explained by that special physical property of animal tissue, stiled *raccornissement*, or horny hardening of tissue.

BICHAT, in speaking of this property, has hinted at its capability of exhibition in *burns*, confining however this exhibition to but one of the forms of the property mentioned by him, viz. the sudden, as the result of the sudden application of heat. He does not, however, allude either minutely or at length to this property as explanatory of, and mainly instrumental in producing those contractions which constitute the subject of these remarks. The term *raccornissement* has been applied by him to that particular hardening resembling horn, or corrugation and contraction, which *dead* parts only undergo on exposure to heat or acids; and the same is familiarly, although imperfectly, exhibited by leather or hide, when the hide has been subjected to the influence of heat, a curling up, not afterwards to be reduced without rupture, taking place. It is only of late years, that the property has been admitted by physiologists as a property at all, and cannot even now be considered as a physical property proper differing from all others, but simply as a *modification of contractility*. Still in common with all the physical properties, it is remarkable for the possession of that distinguishing characteristic which in the books is said to make the difference between the vital and physical properties, viz. the faculty of being exhibited after extinction of life only, the possession of the “*vis mortua*” of HALLER, which is denied to the vital properties proper. It is only with reference to this distinction, that Bichat alludes to the property as capable of being exhibited



in burns. He describes two forms of *raccornissement*, the sudden and the slow; the former of which, he affirms, cannot take place in the hair, *epidermis*, and nails; while the fibrous tissues, tendons, muscles and nerve, are most susceptible of it. He further states, that the slow form of the property *cannot occur during life*; while the sudden *may*, as is seen in burns, or which is equivalent, that the sudden is *compatible with life*, while the slow is *incompatible with life*.

With respect to the opinions, however, of this great authority on this subject, we feel it necessary here to state, that there is strange inconsistency. Bichat defines the property generally, to be that form of contractility which *dead* parts, parts entirely deprived of life, undergo on exposure to heat. Yet he subsequently divides the property, and then, in direct contradiction to this definition, endows the one form with the capacity for its appearance, and exercise *during life or in living parts*; while he deprives the other form of this capacity, in accordance with his definition. The inconsistency is evident, and we see no reason why both forms, as parts of a whole, should not be characterized by the peculiarities of that whole; while we are disposed to think that the inconsistency has arisen from a misconception of the afore-mentioned characteristic, which in the books, is said to make the difference between the physical and vital properties. This difference we have always thought to be too strongly drawn. It should be taken in a more qualified sense. It implies plainly that as an absolute requisite to the appearance and exercise of the one set of properties, life should be totally and entirely extinct; while the presence of life imperfect integrity, is indispensable to the exercise of the other, neither of which cases are wholly correct in fact. The error is the result of imperfect observation and inaccuracy of expression. Under no circumstances, we believe, is life, from whatever cause, simultaneously and instantly destroyed and annihilated. Its extinction is, in all cases gradual; sudden death being really only apparent, and not positive. As to this matter, the experiments of ROLANDO and MAGENDIE, have proved it conclusively. We allude to the removal which these gentlemen effected of the brain, or portions of the brain, and even the entire decapitation of animals; after which, it has been seen, that voluntary motion, and even sensibility were exercised. To the casual observer, sudden extinction of life would, indeed, be the inevitable consequence at least of decapitation. But the fact is not so. The extinction is gradual, and then the vital properties do not, as is commonly supposed, cease to be exercised suddenly; but do continue to be exhibited for a cer-



certain length of time, after the commencement of the extinction of life, or during apparent death; this state of dying continuing, until putrefaction finally arrests its continuance. So also of the physical properties; they in like manner commence their exhibition at the moment of the commencement of dying, and continue until arrested in the same way. Thus both physical and vital properties are in exercise until decomposition puts an end to the same; and it is unnecessary that life should be totally extinct, in order that they may be exhibited. The state in which they exist, although comparatively short, is yet by no means a state of positive death, but a state of comparative or negative existence; and life, or a modification of vitality, still maintained itself in the parts undergoing death. Such being the case, *raccornissement* being neither more nor less than a physical property, must be governed by the same rule or circumstances in its exhibition. Hence it should be defined, that form of contractility which *dying parts* undergo on exposure to heat; and of consequence both, or any number of forms of the same property, are alike subjected to the same rules. In other words, *raccornissement*, whether sudden or slow, may certainly be exhibited during life, or which is the same, *both, and not the sudden form only, are compatible with life.*

A still further error on the part of Bichat, with regard to the non-exhibition of the sudden form of the property in the *hair, epidermis, and nails*, is evidently attributable to the same misconception. He argues the correctness of his opinion as to the cuticle, from what he considered as established beyond doubt, viz. the non-vitality of this membrane. But whatever may be the arguments in support of the non-vitality of the cuticle, certain it is, that the same is at variance with sound physiology. Nay, a glaring inconsistency and contradiction both in terms and ideas, is the consequence of such an opinion. For, if non-vitality means any thing, it plainly means death, not apparent, but positive death; and to say that that which exists, is yet dead, is evidently absurd. So also is it unreasonable to believe that a part which is deprived of vitality should exist, as it does in such intimate union with parts avowedly and undeniably gifted with exalted degrees of vitality, while it at the same time subserves also such important purposes in the economy. Now, we have said that he has endowed the sudden form of *raccornissement* only, with the capacity for exhibition during life; and hence, arguing from the non-vitality of the cuticle, he affirms that the sudden form cannot appear in this membrane. If it he said, that he did not believe that the cuticle was absolutely and totally dead, but still endowed with



a slight portion of vitality, then is the inconsistency already alluded to above, still stronger; since, if his definition of the general property be granted, he is endowing the property or parts of the same, with contradictory capacities. Moreover, if the cuticle be vitalized, then, undoubtedly, the sudden form of the property should be capable of exhibition in the cuticle, since the sudden form, he affirms, is compatible with life.

But what is the truth as to the vitality of the cuticle; for upon this rests the argument we are sustaining? Amongst other reasons for supporting the belief of its partial vitality, we would mention the fact of its being capable of renewal when destroyed by any agency. Now, whether this renewal be a secretion or not, as has been supposed, it must still be dependent on nutrition for its perfect establishment, and nutrition itself being dependent on the existence of the highest integrity of vitality, it is evident that the cuticle must be possessed of vitality, although not in any very great degree, in comparison with other tissues. Again, if the cuticle, as some have it, be a coagulation of the rete-mucosum, as MECKEL supposes, it still seems plain that, inasmuch as the rete-mucosum must be, and is highly vitalized; so must the cuticle throughout be possessed of comparative vitality; otherwise, as it is, as the rete-mucosum the seat of the colour of the skin, as Meckel states, the action of external agencies would constantly destroy the same, which is not the case. Its retention of the colour we would regard as the result of the exercise of its vitality, although that vitality may be only a modification of the same. Again, we have the authority of Bichat himself for the following axiom, viz. that every organ which enjoys contractility, likewise enjoys extensibility. Indeed, he enumerates only these two as physical properties proper. Now, we have also the authority of Meckel for stating that the cuticle does possess extensibility. By virtue then of its possession of extensibility, must it, according to Bichat, possess contractility. The possession of these two physical properties then, implies distinctly, that the cuticle must possess vitality, since the existence of these could never have been determined, unless that vitality had ceased to exist anteriorly to their exhibition. If then, this membrane does possess vitality, not alone the sudden form of *raccornissement*, but also the slow, as well as every other form of the property may occur in the same, since we have shown that both are compatible with life.

As to the hair and nails, we regard them as the cuticle, possessed of certain degrees of vitality also, and therefore capable of giving place to the exhibition of the property. But facts are stronger than



arguments, and we would adduce in evidence of the exhibition of it in the hair, the use of the barber's curling tongs, and the practice of baking hair with a view to curling it, both of which are familiar examples of the property in the results they effect. With regard to the nails, a striking instance offered at a recent fire which occurred in this city, in which a horse and dog were destroyed, whose remains we had an opportunity of examining. The hoofs were split, and each split portion or part scaled off, exhibited the property distinctly. Thus we think that *raccornissement* may be exhibited in the hair, epidermis, and nails; and we have Bichat's authority, that the fibrous tissues, especially the tendons, muscles, and nerves, are most susceptible of it. Hence, we draw the conclusion, that the external cutaneous system in general, is capable of exhibiting the property; at least, it cannot be denied to the dermis or cutis vera; since upon the authority of both MECKEL and OSIANDER, the latter of whom endows it with distinct *muscular* power, this layer of the system is evidently fibrous in its nature, and therefore, according to Bichat, highly susceptible of it.

Thus we arrive at these two facts, which may be considered established, that *raccornissement*, whether sudden or slow, is compatible with life, and that the external cutaneous system, as a whole, is capable of exhibiting the property.

If then it is true, that the physical properties are, in their exhibition, compatible with life, it of necessity follows, that inasmuch as vitality in all cases must be subjected to the influences of various agencies, capable of modifying the same in various ways, as well as of changing its character as to its degrees of activity, so must the exhibition of these physical properties be correspondingly influenced in their degrees of exhibition, by these same agencies. In proportion as they are exhibited, will the vitality be diminished. As they commence their exhibition upon the commencement of the extinction of life, so as that life becomes progressively diminished, will they be progressively increased in the strength of the same. *Raccornissement* then, being one of the physical properties, must as these, be subjected in its exhibition, wherever it may take place, to the same rules which govern the physical properties generally. That as regards the external cutaneous system, if an iron, made *not quite* red hot, be applied to the skin, the cuticle or first covering of the same will become hardened; while, if applied *quite red hot*, it will cause the same to become smooth, hard, and crisp, and when applied at the *white heat*, it will entirely remove the cuticle, consuming it. In each of these degrees of heat applied, have we instances of the slow, sudden,



or gradual extinction of vitality, and the consequently gradual exhibition of the physical properties. In other words, we have strongly marked degrees of the property called *raccornissement*.

Now, if the application be made with such rapidity and violence as to destroy parts to a certain extent, it follows, of necessity, that the influence of the destructive agent cannot be confined in its effects to the parts so totally destroyed alone. It must, undoubtedly, extend to a greater or less extent in various directions in the adjacent and subjacent structures. This is evident, we apprehend, from the consideration of the fact, of the possible, nay, absolute transmission of irritations so universally observed. The rule which governs this transmission, is the same which regulates the abstraction or destruction of vitality. Thus, a certain portion of the tissue is totally deprived of vitality, but the adjacent tissues must come equally under the influence of the destructive agent, and their respective vitalities must, of necessity, be more or less impaired or modified, precisely in the same way that a focus of irritation being once established, the transmission of the same must, of necessity, take place in the neighbouring structures, in proportion to their respective susceptibilities; for instance, a portion of the cuticle is totally destroyed. Now, the destruction does not stop here. That portion also, which is immediately subjacent or adjacent, must likewise lose a portion of its vitality, or the same must be modified; for we have no reason to suppose, nor is the fact so, that a portion of the vitality of any one part should be alone affected, that only a certain part of the vitality which pervades the whole cutaneous system, should alone suffer by the agent. Inasmuch as life is a whole, pervading the economy in certain degrees of force and integrity, the destruction of a part must implicate the remainder. Thus, when a portion of the cuticle is totally destroyed, all the subjacent and adjacent portions must, in some degree or other, feel the influence of the destructive agent; and moreover, the loss of their vitality, must of necessity, be inversely at the vicinity of each parts to the focus of destruction; so that those portions of the tissues nearest will, therefore, be deprived of a greater portion of their vitality, than those at a distance, and this also in accordance with the degree of integrity of vitality, which each individually and respectively possesses. Therefore, it is plain, that as *raccornissement* depends, for its more palpable or partial exhibition, upon the positive or partial deprivation of vitality, so, for instance, in the external cutaneous system shall we have more or less decided exhibitions of the same in this system, in proportion to the total or partial deprivation of the vitality of its component parts.



In what manner now are the foregoing remarks applicable to the case whose history we have given? i. e. as far as the contraction, which rendered it remarkable are concerned? We would remark, here, that in every case of burn, contraction must be exhibited as an effect, from simple temporary contraction, even to those formidable contractions, which constitute the hideous deformities which succeed the more highly aggravated forms of the injury; and we cannot otherwise believe than, that these contractions are neither more nor less than exhibitions of *raccornissement*. As regards the case, we know of no other cause to which they can be attributable, proceeding as the injury did, from the action of violent heat. Every feature of *raccornissement* was exhibited. The contractions resisted every effort to reduce them, progressing slowly but certainly during the treatment of the injury, uncontrolled and controlling every plan of resistance. That they were not similar to contractions which result from wounds was evident. In these last, although upon the termination of the healing process, contractions do occur, and particularly so in uneven, ragged and lacerated wounds; still these are attributable to the want of juxta-position of the torn fibres of the parts, by which the regularity of these contractions are interrupted; while in simple incised wounds, where exact juxta-position can be effected, we have no irregular cicatrix resulting. In such instances the degree of contraction is much less formidable, and moreover reducible, at least by the knife if necessity requires it. But in the contractions from burns, this is next to impossible, as the experience of every surgeon abundantly testifies. We confess that we were not surprised at the appearance of the property in the leg which had not been amputated. In this we expected it, and made use of every means to prevent it as far as possible, unsuccessfully, however, as has been said. In the other leg we were sanguine of non-interruption from the contractions, inasmuch as the operation had been performed above the knee, and at a distance from the extreme point of injury, by which we had hoped to have rendered the operation similar to common cases of amputation, the result of which would have been that usually observed; as well as of placing it beyond the controul of the property. But in this we were again disappointed. Thus, although previously satisfied that the influence of the property would be observable in the one, we by no means anticipated its occurrence in the other. It was this occurrence which induced us to remark upon the case at the present length; and confirmed us in our opinion, that contraction as a sequence of burns is to be attributed to *raccornissement*. The operation performed, was the double flap, and when the flaps were approximated, they approached each other so closely, as to present nearly a simple incised wound.



This also induced us to suppose that we should have been favoured with a “beautiful stump.” The result, however, proved the reverse, although we selected this mode of operating as most favourable to the anticipated issue.

But in what way are the conclusions we arrived at as to the property generally, applicable here—the first of which was that *raccornissement*, whether sudden or slow, is compatible with life? In the present instance, we had exhibitions of both forms, inasmuch as at no period of the injury, was there ever a total extinction of vitality. The application of heat was both suddenly and violently, as well as slowly made, and moreover was prolonged. Allowing, therefore, that the vitality of the parts was in perfect integrity, the immediate effect of the sudden application must have been that of a decided and considerable extinction of a portion of the vitality; while, on the other hand, the consequent effect of the same application, slowly made, must have been a prolonged and continued extinction of the same vitality. In neither case was the life of the parts totally extinguished, for if so, then would we have had, according to Bichat, an exhibition of the slow form of the property only, since he affirms that this form alone cannot take place during life, which was not the fact. But the vitality of the parts was not in perfect integrity, for the injury occurred in severe winter weather, to which the individual had been exposed, the effect of which in combination with his intemperate habits, must have been that of impairing or decidedly modifying the vitality of the extremities at least. This modification we regard as an efficient cause in assisting the promotion of the exhibition of both forms of the property. The parts were then in a fit condition for the exhibition of the physical properties, and consequently of *raccornissement*, as one of these; since life in them was in a measure extinguished, although still present in comparative integrity. Again the condition of the ulcerations in the leg not operated on indicated the exhibition of both forms. The sloughs here afforded evidence that although a portion of the tissue had ceased its exhibition, since putrefaction had commenced, still life must have been originally present; while other portions continued the exhibition, as has been shown in this, that the contractions took place not alone in this leg, but in the stump, proving also that life existed in these. Now Bichat correctly observes, that putrefaction destroys both forms of the property. The putrefaction, however, had not reached but to a certain extent, and hence the contractions in the adjacent tissues occurred, which proves we think conclusively that both forms were exhibited, or again that both forms are compatible with life, as the case corroborates.

Next as regards the appearance of both forms, in the external cu-



aneous system, which was particularly the seat of injury in the case. Independently of what has been said as to the possibility of the occurrence of both forms in the cuticle, arguing from its vitality, it is plain from the fibrous character of the dermis, that the sudden form at least, may have made its appearance in this membrane; since the fibrous tissues especially are most susceptible of it. But we think that both forms were exhibited in the system, because if the sudden form had not made its appearance in the cuticle, according to Bichat, the slow at any rate, must have done so; otherwise we should have had the extensibility in the cuticle, acting as a counteracting force to the contractility in the dermis, the result of which counteraction would have been but a moderate deformity in the leg operated on, which was the reverse of the truth. Again, this would have been more evident in the stump, which was wholly at a distance from the original seat of the injury; for at this distance any exhibition of contraction would plausibly enough have prevented in the cuticle at least—the dermis would have enjoyed the full play of its contractility, opposed of course by the same extensibility of the cuticle, but in greater force, and the deformity would have been still less, which was far from being the case.

And now as to the degrees of the appearance of this property. Notwithstanding what has been said on this point also, we have evidences that in this case, *raccornissement* was exhibited by degrees decidedly. It is plain that the destruction of vitality could not have been uniform throughout the whole extent of the injury, since in some parts the destruction was greater than in others. In other words, we had radiations of destruction proceeding from a certain focus, and therefore in each of these, must there have been different degrees of the exhibition of the physical properties, and consequently of *raccornissement* also, as one of these, or a modification of these.

We cannot, from these observations, arrive at any other conclusion, than that in this case we have undeniable evidence of the fact, that *raccornissement* was strongly and certainly exhibited in all its forms; as well as that the contractions which rendered it so remarkable, were alone attributable to the exercise of this property in the external cutaneous system, which was the seat of the injury.

We further, if the preceding remarks be correct, determine this general fact also—that *raccornissement* is the only true mode of accounting for the exhibition of those contractions which so universally take place in the severer forms of burns. The similarity alone, which exists between these contractions, their peculiarly distinguishing characteristic, and those which mark the exhibition of the property would



be sufficient to test the accuracy of the fact. In both, the same obstinacy of contraction and rigidity of fibre occurs; in both it is impossible to reduce this rigidity; in both the tendency to recontract is equal; in both do we observe the dependence for exhibition on the integrity of vitality, or certain modifications of vitality; and lastly, in both we might consistently say, that we know of no universally successful method, as surgeons and the books abundantly testify, by the agency of which we can force the contractions to yield permanently, except that of decomposition, by which after vitality is totally and irretrievably extinct, the physical properties are ultimately destroyed. At least we have analogy and deduction in aid of our assertion, that this similarity argues the truth of our proposition.

The above remarks have been thrown together without regard to order or regularity of argument, and are therefore not to be viewed in the light of a well connected essay.

*Charleston, May 14th, 1835.*

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ART. IX. *Cases in Midwifery*. By WILLIAM RANKIN, M. D. of Shippensburg.

CASE I. *December 1st, 1831.*—Mrs. B. about three months ago, sent for me to visit her, in consequence of uterine hæmorrhage. I found her discharging considerable quantities of blood from the vagina. Her pulse was hard and full, accompanied with some pain in the uterine region. She was in the sixth month of her gestation. Apprehensive that the uterus was disposed to discharge its contents, and that the woman would most probably suffer an abortion, if the uterine pain and hæmorrhage were not speedily arrested, I drew from her arm as much blood as she could bear, syncope being threatened; had cold applications made to the external parts of generation, as well as over the lower part of the abdomen, and prescribed a styptic pill, composed of sacch. saturni. three grains, and opium, half a grain, to be taken every hour, until the hæmorrhage should moderate, enjoining, at the same time, absolute rest in a recumbent posture, and a strict antiphlogistic regimen. The violence of the discharge soon abated; but during the remaining three months of her gestation, she had almost constantly a slight discharge of blood from the vagina, especially on the least exertion; and on two occasions, during this period, she had nearly as copious hæmorrhage as at the first call for assistance. Intermitting fever was prevalent in her vicinity at the time of the attack of



hæmorrhage, of which disease she was subject in a mild form; this, no doubt, aggravated the symptoms of her case very considerably. During all this time, whenever the disease appeared by any means to require it, and the pulse to admit of it, I abstracted blood from her arm, administered the styptic pills at shorter or longer intervals, as appeared to be required by the urgency of the case, and persisted in the use of the cold applications; when the state of her bowels indicated it, she took a laxative, such as castor oil, sometimes preceded by a small portion of calomel. On this day, December 1st, 1831, I was called upon to attend her in her accouchement, and having five miles to ride, on my arrival, I found she had been in labour several hours, and with each pain she lost a considerable quantity of blood. On examination per vaginam, I at once discovered that the placenta was firmly attached, directly over the os uteri; and as the neck of the uterus was becoming shortened by the action of the labour pains at every return of the uterine contraction, a separation of part of the placenta took place, and occasioned a profuse flow of blood.

The system of the woman being now nearly exhausted, and the uterine pains beginning to flag, and the blood to flow even during the remission of the pains, I found that I had no time to lose, and that to save the life of the woman, immediate delivery was the only resource. After, therefore, explaining to the woman and her friends the nature of the case, and what was necessary to be done, in order to relieve her, and permission being granted to act as I thought best, I proceeded to the operation. On introducing the hand, and examining around the edges of the placenta, I found it all around very firmly attached to the neck of the uterus. I then examined the centre of the placenta with the point of the finger, and found it loose in its texture, and quite easily penetrated. Through this part, therefore, though contrary to the best established practice in this country, I passed my hand, with the greatest facility, ruptured the membranes, searched for the feet of the child, and brought them down through the placenta; the uterus now contracting pretty firmly on the body of the child, assisted in the delivery of a living and healthy male child.

After the delivery of the child, I took hold of the cord and examined the state of the placenta, which I found not yet entirely detached from its original situation; but it was brought away by the next contraction of the uterus, and a slight force exerted by means of the cord.

As soon as the child was delivered, all excessive sanguineous discharge ceased; but the woman was exceedingly prostrated; a disposition to syncope recurring every few minutes.

Although the system was greatly exhausted from the loss of blood,



she recovered without any unfavourable symptoms, and in as short a time as could reasonably be expected.

CASE II. *November, 1833.*—I was requested by my friend, Dr. FINLEY, of this place, to visit in company with him Mrs. K. whom, he informed me, was in labour with a placental presentation. I understood that our patient, during the last three months, suffered several pretty severe turns of uterine hæmorrhage, and she being a very delicate woman, I consequently found her, on my visit, very much exhausted, and still suffering the loss of a moderate quantity of blood during each uterine contraction. On examination per vaginam, I found, as stated by Dr. F. the placenta placed fairly over the os uteri. Her labour pains, at this time, being very feeble, we delayed operating until the uterus should contract a little more rigorously, which before long took place. I then, at the request of Dr. F. after well oiling the hand and arm, introduced the hand, passing my finger along the edge of the placenta, and finding the adhesions but very slight, I very gently detached that part of it from the uterus; having arrived at the membranes, and having ruptured them, I introduced my hand, sought for the feet of the child, and brought them down into the vagina; during the next pain I completed the delivery of a still born and very delicately formed child. We then applied friction over the region of the uterus, in order to excite the contraction of that viscus, and thereby expel the placenta, which effect was soon accomplished, and the placenta safely delivered.

The hæmorrhage, neither at the time of delivery, nor afterwards, was by any means excessive, and she appeared to revive a little, and her strength to be somewhat on the increase for about half an hour; she then began to sink, and notwithstanding all we could do, died in about two hours after delivery.\*

CASE III. Mrs. R. in her seventh month of utero-gestation, sent for me on the night of the 22d of November, 1829, with the idea that labour was about to take place at this early period of her gestation. She stated to me, on my arrival, that the membranes had ruptured, and that the waters had been discharged, but on being interrogated, said that she had as yet suffered no pain. This I thought a little singular, viz. that the membranes should be emptied of their waters, and no contractions of the uterus be the result.

A day or two previous to this occurrence, she had received a fall down a steep and narrow pair of stairs, but was sensible at the time of having received no injury. Yet, fearing some untoward result, she sent for me. I found her pulse a good deal excited, and her breathing

\* Was not death the result of *internal* hæmorrhage?—ED.



more oppressed than usual, she having a chronic affection of the lungs, occasioning cough and dyspnœa, sometimes to a considerable extent, and concluded to take away some blood from the arm. Before half a pint of blood was lost, she expressed herself as much relieved in her breathing, and I have often before bled her with the same effect.

The rupture of the membranes, and the discharge of the liquor amnii, I supposed to be the effect of the fall, and that premature delivery would be the consequence. I waited with her until morning, with the expectation that labour pains would soon come on and expel the foetus; but no such result at this time took place. I then administered to her thirty drops tinct. opii, and left her with directions to send for me provided any labour pains should come on. No pains took place, and the water continued to come away in considerable quantities for forty-five days, which was the completion of her proper period of utero-gestation; when she was delivered of a very weakly male child, which was still born; though life was not extinct ten minutes before it was expelled from the uterus. Being a hip presentation, and the contractions of the uterus feeble and slow, I was unable to deliver alive so delicate a child. On my arrival I examined per vaginam, and could discover no dilatation of the membranes before the presenting part, as is usual where the liquor amnii has not been discharged, and I inquired of her, particularly, whether she had felt any thing like the membranes rupturing, and the waters suddenly coming away, before my arrival; but she answered in the negative, and stated that she felt nothing more than the same discharge of water that she had done for nearly two months.

It now becomes a question, whence is this water derived? Is it the liquor amnii discharged by the rupture of the membranes? Is it contained, as some have suggested, between the amnion and chorion? Is it derived from a ruptured lymphatic; from a broken hydatid within the neck of the womb; or is it from transudation through the amnion? A late writer, by the name of GIEL, whose observations are quoted in this Journal, (Vol. V. p. 168,) and who speaks of having seen a number of such cases, supposes "the water to be extravasated between the concave surface of the womb and the convex surface of the chorion, and that when this collection increases to a certain degree, it escapes from the orifice of the womb, in a mass and force proportionate to the operation of the excitement of body or mind which determines it." He says "such discharges should cause no alarm to the patient, nor provoke any interference from the midwife." He supposes that in no instance can the waters within the foetal membranes be displaced, without bringing on parturition. But may not the action of gestation



be so great as not to be suspended even by the discharge of the liquor amnii? for there would be no more singularity in this, than for a woman who was carrying twins to be delivered of one several days previously to the other, and cases of this kind are on record, for two of which I would refer the reader to the ninth number of this Journal, page 232. Case 1st is related by Dr. RYAN, of London. The first child was born on Monday, and the second on Friday, without hæmorrhage or any other unfavourable symptom during the interval. The second case was that of a soldier's wife, who travelled thirty miles in a stage coach three days after the first child was born; on her arrival at the end of her journey she complained of swelling of the abdomen, which on examination was found to be caused by a second child in utero, of which she was delivered without any inconvenience.

In the present case, if the water evacuated, during so long a period of time, had not come from within the amnion, I cannot account for the entire absence of the usual distention of the membranes before the presenting part during parturition; for on my first examination per vaginam, the os uteri was not dilated to a greater extent than what was necessary to admit the point of the finger, and I examined her several times by touching during her labour with the express intention of determining this point, and am therefore confident that no more water was discharged during labour than she was accustomed to evacuate per vaginam, every day during the last forty-five days of her pregnancy.

She told me, and she is a woman of undoubted veracity, that during almost every night, the water discharged per vaginam was sufficient to completely saturate a large napkin, which she was in the habit of placing under her. The discharge was not confined to any particular period of the day or night; but constant, though sometimes it was more profuse than at others, and especially on any considerable exertion of her body, as coughing, sneezing, &c. She was treated by an enjoinder of rest, and as much as possible in a recumbent position, and keeping the bowels loose with magnesia or some mild laxative medicine.

In her former pregnancies, and in the early part of this one, she required frequent venesection, on account of the great increase of fulness in the vessels of the lungs, occasioned by her pregnant condition, producing dyspnœa and oppression; but after this discharge of water commenced, it acted as a substitute for venesection, and therefore it was unnecessary to repeat that operation.

Might not, in this instance, the continuance of the discharge of



water have been a wise provision of nature, to prevent too great plethora of the system, and by that means protect a diseased and debilitated condition of the lungs from the most serious injury.

It might by some be conjectured that the discharge was from the urinary bladder; but in order to satisfy myself on this point, I made the proper inquiries, and discovered that she evacuated the urinary bladder at regular intervals, as at other times; for she was obliged each night to rise for this purpose as often as she ever did, and she discharged as great a quantity as usual. Nor had the water from the vagina the peculiar odour of urine, and it was, to all appearance, on the cloths as clear as spring water. A short time previous to the accident, she told me she thought she was as clumsy as was usual with her at the end of the ninth month, and that the lungs appeared fully as much incommoded by the pressure from below, as at that time in her previous pregnancies; and further she said she felt apprehensive, she could not survive until her time would be completed, provided the uterus should go on increasing to a much greater extent. After the water began to come away, she was relieved of all that peculiar sense of oppression, that a gravid uterus is accustomed to produce in the thoracic viscera, especially in women who are predisposed to, or are actually labouring under, a pulmonary complaint. An immediate effect of the accident was a considerable subsidence of the abdominal enlargement, which was followed by a speedy alleviation of all the pulmonary distress.

*Shippensburg, June 2d, 1835.*

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ART. X. *Case of Polypus of the Heart, where Death occurred during Labour.* By J. B. ZABRISKIE, M. D. Physician to the King's County Alms-house.

CHARLOTTE GABOT, aged eighteen, came to the alms-house on the 10th of August, 1834, with intermittent fever, from which she soon recovered. She stated that she was pregnant, and that she had taken the tincture of iron and many other drugs to produce abortion. During the months of December and January, 1835, she had frequent attacks of intermittent fever, complaining of pain in the left hypochondrium, in the left side of the thorax, and frequently in the abdomen. On the 30th of December, she was seized with a severe attack of trachitis, accompanied with intermittent fever, and



inability to speak louder than a whisper. This yielded to the ordinary remedies, but a cough continued, with a pain extending through the greater part of the left side of the chest, and frequent palpitation of the heart. Her abdomen at this time was very tender and swelled, and for several nights she had severe pains, resembling labour pains, which were followed by an œdematous swelling of the labia. A dose of castor oil, followed by laudanum, relieved these pains, but the swellings of the external parts, with the tenderness of the abdomen and occasional pains, continued till her death. For some days before her death, her face was swelled, and her naturally florid colour left her cheeks. For a short time before she died, she often complained in the night of great distress in the heart, saying that it felt as though something was tearing it. The day that she died, her face was swelled very much, and she otherwise looked very bad, but she was not confined to her bed, nor did she complain more than usual.

On the 28th of February I was called to see her, as she was said to be in labour, but found her dead. She was lying upon her left side, with her extremities drawn up and her face much swelled. The nurse said that she was seized with labour pains in the evening, which appeared to proceed regularly, and at length became very severe. At this time she was sitting up at the fire, conversing with those around her; her intellect apparently undisturbed; she then went to her bed, and laid herself in the position mentioned above, saying that she felt very bad, and that she must die, when, without any pain or effort, a sudden gush was heard, similar to the rupture of the membranes. This appeared to proceed from her mouth. But seeing nothing, and supposing that the child was born, the nurse examined her, but found nothing; from this time she ceased to breathe, and never moved from the position in which she laid herself. Life thus appeared to be suddenly extinguished, as it were, in an instant.

*Autopsy, fourteen hours after death.*—The arms were thin, but the rest of the body not emaciated. The neck and upper part of the chest were covered with dark purple spots. The abdomen presented the appearance of a woman near the period of labour, and there was evident fluctuation.

*Abdomen.*—The uterus filled the anterior of the cavity, and was of a beautiful rose colour, and tinted upon its anterior surface with a few arborescent vessels, the posterior surface being of its natural colour. It contained a full grown foetus, which had apparently been alive till the death of the mother. The omentum presented a very singular appearance, being at first sight apparently of a dirty orange colour, as though it were tinged with bile, but a closer examination



showed the whole surface filled with a very fine net-work of minute vessels, which mingled with the yellow fat of the omentum, gave it this appearance. It was evidently in a state of high inflammation, and was probably the seat of the pain in the abdomen, of which she so constantly complained. The peritoneal coat of the stomach was of its natural colour. This viscus contained a yellowish water, and the mucous membrane was softened throughout. At the pyloric extremity it was of a deep pink, the colour gradually becoming paler through the extent of one-third of the viscus, while the remainder was altogether without any redness. This redness, which was greatest at the valve of the pylorus, suddenly terminated there, not being seen upon the other side. The duodenum showed no redness or lesion, and the mucous membrane of this intestine was pale quite to its termination at the pylorus. The ileum was inflamed throughout the greater part of its length. The urinary bladder was sound and empty. The spleen was very much enlarged; it was nearly two inches in thickness, and of a very dark colour, being of the colour of kino in the inside, almost black. The peritoneum contained a considerable quantity of a bright yellow fluid.

*Thorax.*—The pericardium contained more than half a pint of yellow water. The heart was nearly of its natural size; the right ventricle entirely flaccid, but the auricle of this side and veins were much distended. Upon cutting into the auricle, a quantity of coagula, together with a large white fibrous substance flowed out together. The right ventricle and the left side of the heart were found empty. The structure of the heart appeared sound, and the interior healthy; the valves were not ossified, and the foramen ovale closed. The right lung was inflamed upon its anterior edge, and the left through its entire extent, but without tubercles or hepatization. The substance found in the heart was about twice the size of a horse chesnut, with two extremities; one of these extremities had very much the appearance of the columnæ carneæ, being flesh coloured, and longitudinally fibrous; the other was divided and ragged. The whole had the appearance of having been an organized substance, being evidently fibrous throughout its whole extent, though these fibres were much more apparent in the two extremities. These fibres appeared to exist in layers, which gave the substance the appearance of being composed of many sets of membranes, laid one over the other, and bound together by transverse fibres. In firmness, and colour internally, it resembled the medulla oblongata.

It has been doubted whether polypi ever can exist in the heart. JOHN BELL, in his *Anatomy*, denies it, and says they are coagula.



formed at the moment of death. Many other authors have supposed them formed during the agonies of a protracted dissolution. It is indeed difficult to conceive how bodies floating loose in a mass of blood, constantly in motion, as that in the heart, can exist there without producing serious consequences upon the circulation. But later observations have confirmed the fact, that concretions are found in the heart after death. In most cases, these are formed in enlarged hearts; but in some cases, as in this, in hearts of the natural size. They have been found in most cases in the right side of the heart and in the veins; but STOLL, in his *Medecine Pratique*, mentions a case where both ventricles were full of polypi. CORVISART showed that there are two kinds of polypi; such as form after death, and such as are formed during life. The former consist principally of coagula of blood enveloped in a layer of whitish fibrine; they are loose, never adhering to the parietes of the vessel. But on the other hand, those which are formed before death, are distinctly fibrous, and are of a pale flesh colour; they adhere more or less strongly to the walls of the vessel containing them. LAENNEC has observed, that the last of these concretions are more frequently found in the right ventricle and auricle, and that when in the latter, they often completely obstruct its cavity.

In what manner the concretions which exist before death have been formed, has been a matter of much more uncertainty than the fact of their existence. Laennec says “we must attribute them to spontaneous coagulation of the blood.” STOLL,\* BOUILLAUD, and indeed most writers upon this subject, speak of them as deposits of coagulum from the blood. By others they are supposed to be the results of carditis, that the internal membrane of the heart during inflammation deposits lymph, which is converted into a membrane in the same manner as results from the inflammation of several other mucous membranes. This opinion is supported by KREISIG, in his treatise upon the diseases of the heart. This is opposed by Bouillaud,† because they are often found when there are no other signs of inflammation. To this it may be answered that the inflammation which gave rise to them may have subsided sometime before death, and after these concretions were deposited in the vessel. But it is extremely doubtful whether any substance can exist loose in the heart during

\* *Traite des Maladies du cœur et des gros Vaisseaux.* Par MM. Bertin et Bouillaud.

† See article Cardite, in the *Dictionnaire de Medecine et de Chirurgie Pratiques.*



life. It is impossible for us to conceive how any body can exist there without impeding the circulation, either by being thrown into the arteries and choking them, or by becoming fixed in the valves, and thus stopping the whole circulation. It is therefore probable that all polypi of the heart which are formed before death, are the product of inflammation or some diseased action of the heart, and are fixed to the lining membrane of some part of the circulatory system. Accordingly we find in most cases where the writers appear to have paid any attention to the distinction pointed out by Corvisart, that those which existed during life were fastened to some part of the inner surface of the heart or large blood-vessels. Cases of this kind are recorded by Laennec. Dr. HARTY also describes two cases which caused death, and which could be recognised during life\*. And as all the secretions were called by the general name of polypi, until Corvisart showed the distinction between them, it is probable that most of those found loose were formed after death. There can be but little doubt, however, that these productions may in certain cases have broken loose, and then by making a mechanical impediment to the circulation have caused sudden death. This I believe to have been the case here, and for these reasons:—1st. The previous history of the case, as well as the appearances after death showed that there certainly was disease of the heart. 2d. From the petechiæ found about the neck after death. 3d. From the size of the concretion, which was sufficient to obstruct the orifice of the ventricle. 4th. From the ventricle being empty while the auricle and veins were distended with blood. 5th. Although there was much disease through the whole system, and perhaps sufficient to have caused death, yet the suddenness of it showed that this was not the cause. A previous disease of the heart may have caused the deposition of a membrane similar to the false membrane of croup and certain diseases of the bowels. But this adhered to the walls of the vessel in which it was found by one of the extremities after the inflammation had ceased. The appearance of the polypus favours the opinion, as one extremity was firmer in its texture, and resembled the columnæ carneæ in colour and external appearance. At length by the exertion of labour, or from some other cause, this adhesion giving way, the polypus floating into the orifice of the ventricle, obstructed the circulation and produced sudden death.

\* See p. 199, in the fifteenth number of this Journal.

*Flatbush, April 20th, 1835.*



ART. XI. *Case of Strangulated Umbilical Hernia, with removal of the Cyst, followed by a Radical Cure.* By J. W. HEUSTIS, M. D. of Mobile.

ON the night of the 7th of June, 1829, I received a message by Mr. G. the master of the slave, requesting me to visit one of his black women, about six miles distant, with all possible haste. The night was far advanced when I arrived; I found the woman apparently in the last agonies of expiring nature; in extreme pain, with an abdomen immensely swollen; pulse feeble and intermitting; body cold, and covered with a copious exudation of clammy sweat. The protrusion of the umbilicus was about the size of one's fist, and had been increasing for two days. A physician had been called in at an early period, who had in vain attempted the reduction by the use of all the ordinary means, such as bleeding, warm bath, taxis, &c. He had, however, left her with the intention of returning in the morning prepared for the operation. But in the meantime the patient had continued to grow worse; and her master becoming alarmed, had gone in quest of my assistance. There had been no discharge from the bowels since the commencement of the strangulation. Oil and enemata had been given her, but nothing but the injections had come away. The abdomen was now tense and painful to the touch, attended with great irritability of the stomach, and frequent vomiting.

Finding that there was no time for delay, I proceeded to the operation by candle light. The integuments were carefully dissected from the distended sac, and the point of protrusion arrived at, almost entirely obliterated, and not sufficiently large to admit the little finger. The sac was now divided, and the opening enlarged with the blunt pointed bistoury, so as to admit the protruded portion of the bowel, which was dark coloured, and almost gangrenous. There was still, however, a considerable volume of hernial sac, consisting of the protruded and distended peritoneum, much thickened from former and repeated attacks of hernia. To leave it, would be exposing the woman to future returns of her habitual infirmity; whereas, by removing it, a radical cure would, in all probability, be effected. I accordingly removed it entirely with the scalpel, close to the point of protrusion. No sooner were the dressings applied than a free discharge from the bowels took place, to the great relief of the patient.

The cold perspiration had now disappeared; the pulse had acquired more firmness, and the tension, pain, and hardness of the abdomen



diminished. In the morning the abdominal distention had subsided, and the woman was in a fair way of doing well. I left her, giving the necessary directions for her future treatment, and saw her no more. Some time subsequently, I learnt from her master, that her recovery was speedy, and that she had no more returns of the complaint, a radical cure having been effected by the operation.

*Mobile, April 25th, 1835.*

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ART. XII. *Case of Dislocation and Fracture of the Spine*. By GARDINER DORRANCE, M. D. of Amherst, Massachusetts.

IN this Journal for May, 1835, a case of fractured spine is reported, in which depression of the spinous process was removed by an operation. The case proved fatal; but the operator thinks an elevation of the depressed process furnishes the only hope for the patient, and therefore recommends it.

About six years since, Amos Marsh, of Sunderland, while at work in the woods, was struck by a falling tree, and bent to the ground. I saw him soon after he was removed to his house. I found him in bed, saying, that both his thighs were broken. Finding them straight and firm, I suspected loss of sensation in them from injury of the spinal cord. Turning him to his side, I found an angle at the eleventh dorsal vertebra, of forty-five degrees.

It looked like so easy a thing to make the spine straight, that I could hardly resist the inclination to put it so. And the by-standers were impatient at my hesitation to do it. I supposed there was partial dislocation of the vertebræ, which any attempt at reduction would probably make a perfect one. I knew too, that dislocation could not take place without fracture of the spinous or transverse process, and that loose spiculæ of bone would very possibly be driven into the spinal marrow, and cause instant death. A consulting physician, who saw the patient some hours after, was anxious to attempt a reduction; and when dissuaded from that, proposed cutting down and removing the broken and probably depressed fragments of bone. It was, however, concluded to trust the patient to nature, using bleeding and low diet to prevent, as far as possible, inflammatory action in the injured part.



Mr. Marsh had for a number of weeks almost perfect paralysis of the lower limbs, and of the lower abdominal viscera. Urine was drawn off by the catheter, and the bowels moved by stimulating injections. By degrees, sensibility and mobility returned to the limbs, and the bladder and rectum resumed their functions. In four months the patient walked with crutches, and in six, with a staff. In less than a year, he resumed his trade, that of a cooper, and he now performs as much labour, sometimes in his shop, and sometimes in the field, as most men of his age. There is a stooping of his back, and a sideway motion to his gait. The vertebræ are not in place, though more so than at first, and I believe much more so than art could have placed them.

The palsy of the parts below the injury, shows that the spinal marrow was compressed, either by displaced vertebræ, or by the depression of their spinous processes. Nature has by some means gradually removed the compression. In the hurry and agitation of such an accident, the physician wants some rule of practice to guide him. From the fatality or permanent paralysis of the lower extremities, which have attended all the cases I have known of, where reduction of dislocation or removal of depression have been attempted. I consider the favourable result in the case of Mr. Marsh may encourage us to wait and hope. The curative powers of nature are often greater than we are disposed to believe them.

*June 22d, 1835.*



## REVIEWS.

ART. XIII. *A Treatise on Tubercular Phthisis, or Pulmonary Consumption.* By JAMES CLARK, M. D., F. R. S. Physician in Ordinary to their Majesties the King and Queen of the Belgians. From the Cyclopædia of Practical Medicine. London, 1834. 8vo. pp. 88.

THE object with which this treatise was written is stated in the title page. It is the article "Tubercular Phthisis" of the "Cyclopædia of Practical Medicine,"—a work, which has been recently completed, and to which we have drawn attention in the pages of this Journal,—not at any length, however, because such productions do not admit of elaborate review, and partly also because, except as regards the articles of a few of the contributors, there has been nothing, which appeared to us to signally require commendation. With those exceptions, there seems to be a remarkable deficiency of knowledge, not only respecting what has been added to the stock of medical learning in this country, but also on the continent of Europe, and especially in Germany. It will scarcely be credited, and yet it is nevertheless the fact, that in an article devoted to the "History of Medicine," and contained in the same monthly part as Dr. Clark's excellent article, Dr. Bostock has entirely passed over the condition of the science in the United States, and has made no allusion whatever to the valuable contributions, for which it is indebted to the zeal and ability of American physicians and surgeons. Such an omission implies—on the part of the author of the article—great ignorance or prejudice, or both; and, in any point of view, unusual incompetency for the task assigned him. Yet it might have been presumed, that a feeling of gratitude would have induced him to take some notice of American exertions for the promotion of medical science, seeing, that an unmerited compliment was paid him, by the republication of his work on Physiology on this side of the Atlantic,—a compliment, by the way, which surprised us at the time as much as it must have gratified the author. It would be an unbecoming condescension in us to offer any reasons to prove, that in no impartial "History of Medicine" could the labours of American physicians be passed over; but we cannot help feeling and expressing our pride in the reflection, that if the works of the same character as the one of



Bostock, to which we have alluded, which have emanated from the American press for the last ten or twenty years—in the departments of anatomy, physiology, materia medica, therapeutics, surgery, obstetrics, hygiène and medical jurisprudence—be compared with the productions of the same kind that have appeared in Great Britain, history cannot, and will not fail to do us justice, and to assign us our proper rank in the scale. In this point of view—if in no other—we regard the publication of the “American Cyclopædia of Practical Medicine and Surgery,” as one of the most important works that have ever emanated from the American press. All the more advanced nations of Europe have now cyclopædiac works of this nature. A comparison can, consequently, be made, against which no objections can be urged, inasmuch as the same articles are treated of in all; and we know, from testimony afforded both at home and abroad, that our own valuable “Cyclopædia” is not considered inferior to any of its kin.

To the English “Cyclopædia of Practical Medicine,” the author of the essay before us is one of the most distinguished contributors. No selection could indeed have been better for the various articles, which he has undertaken. We would especially signalize his fitness for the subject of his present volume, and for every one having reference to the effects of climate hygienically and therapeutically considered. His long residence in Italy; his extensive opportunities for observation, in a situation whither valetudinarians of all kinds have been annually hurrying since the general pacification of 1815; his extensive correspondence with his scientific brethren in various parts of the globe; and withal, his clear, discriminating intellect, constitute a union of qualifications rarely met with in the same individual, and we are satisfied, that we express the feelings of his liberal professional brethren every where, when we say, that no one could have been found more deserving of the honorable post for which he has been chosen at the court of Belgium.

The subject assigned to Dr. Clark, and which is contained in the volume before us, we need scarcely say, is one most deeply interesting to the pathologist,—affecting, as it does, the young and the promising; and being so fatal—so alarmingly fatal—when once its inroads have been made on the frame. It is, indeed, distressing to the medical philanthropist to reflect on the mortality from this single malady, in spite of the best directed efforts, which the present advanced condition of medical science can suggest. It is an old



estimate, that perhaps one-ninth part of the whole number of deaths is from pulmonary consumption. In Great Britain, the proportion has been conceived to be one-fifth, and the author before us puts it as high as one-third. Either of these estimates is probably too high for any part of the United States. In Dr. MORTON's recent work on pulmonary consumption, there is an estimate of the average mortality from consumption and acute diseases of the lungs, in the four largest cities of the United States,—namely, Boston, New York, Philadelphia, and Baltimore. The estimate was drawn up by Dr. GOUVERNEUR EMERSON, whose attention has been more directed to medical statistics than any other physician among us, and whose zeal and ability are deserving of all commendation. His estimate is as follows:—

	N. York.	Boston.	Philada.	Balt.
Average annual proportion of the general mortality to the population, one in - - -	39.36	44.93	47.86	39.17
Average of the mortality from consumption alone to the general mortality, one in -	5.23	5.54	6.38	6.21
Average of consumption and acute diseases of the lungs, one in - - - - -	4.07	4.47	4.90	5.33

But it is impossible for us to arrive at any satisfactory results on this subject, owing to the slovenly mode in which the reports of deaths are usually received and entered into the parish records. “They manage these things better” in Philadelphia; but in many, if not all, of the other cities, the reports, as in London, are handed in by the family to non-professional persons, and, as neither party is acquainted with the nature and nomenclature of different diseased conditions, we sometimes meet with diseases in the bills, whose nature it is impossible to appreciate from the name. In London, two old women are dignified, in each parish, with the office of what is technically called “searchers.”\* Whenever a death takes place, it is their duty to call at the house, in order that they may learn that no suspicion of foul play exists. The family are asked by them regarding the complaint of which the person died; the responses are usually given by the domestics; and as, in all chronic ailments, emaciation is marked before dissolution, and likewise as, in many, some form of convulsion constitutes the “last scene of all;” these two items of the bills of mortality are generally swollen beyond their fair proportions, so that an approximation to the truth can scarcely be made. Such a system ought to be abandoned. There should be a comity existing between the municipal authorities of different cities, so that a uniform

\* See Vol. XIII. p. 153, of this Journal.



standard might be formed; and this, obviously, can never be satisfactorily accomplished until the medical profession become the framers of the reports. In the weekly report of interments for one of our largest cities, we were surprised, some time ago, to observe but one case of *phthisis pulmonalis* recorded; but on proceeding further we found, that, although there had been but one of *phthisis pulmonalis*, there were several of *consumption*. Every observer, too, must have been impressed with the insufficiency of the reports during the prevalence of cholera; most of the cases of cholera morbus and of cramp colic being referable to that entry. The whole subject of medical statistics requires attention. Its condition is now eminently faulty; so much so, indeed, that on many of the topics so interesting to the medical philosopher, the political economist, and the philanthropist, no accurate information can be obtained.

On the disease, that forms the subject of the work before us, no little discrepancy has prevailed, and still prevails. The old notions of its pathology have passed away, and most writers have now settled down on one of two main views;—that it is produced altogether by tubercles; or that it is a chronic inflammation of the pulmonary substance. The former of those views has the greatest number of supporters, and, on the whole, the most respectable names, whilst the latter is maintained by some, who may be fairly classed amongst the most eminent of the professional worthies of the period. The sentiments of Dr. Clark may be at once inferred from the heading to his article—“*TUBERCULAR PHTHISIS, or Consumption, Phthisis Tuberculosa, Phthisis Pulmonalis;*”—thus restricting, with LAENNEC, the term “phthisis” to the disease produced by tubercles in the lungs, and these tubercles originating in a “tuberculous constitution” or diathesis, and in “tuberculous cachexia.”

“Our principal object in this article,” says the author, “is to take a comprehensive view of tuberculous phthisis as originating in a morbid state of the constitution; to inquire into its nature, origin, and causes as an hereditary affection; to point out those circumstances which are capable of inducing it at the different periods of life; and to attach the proper value to those pulmonary diseases which are considered by some as the real causes of consumption, but by others, more correctly in our opinion, as merely determining causes, and often only complications. If we succeed in giving a satisfactory exposition of this, the most important, but hitherto most neglected part of our subject, we may hope to lay the foundation of a sounder pathology of tuberculous disease, and to establish a more rational and more effectual mode of prevention and treatment during that period of its progress in which medical treatment is of much avail, and a cure can be considered possible. For no physician, acquainted with the morbid anatomy of phthisis, can for a moment indulge the hope that we shall ever be able to cure what is usually termed ‘confirmed consumption,’ if we except the small proportion of cases in which the tuberculous deposit is



confined within narrow limits. The state of the lungs in the advanced stage of phthisis is to be regarded as the result of a series of morbid processes which have terminated in the destruction of the organ; and we might as reasonably expect to restore vision when the organization of the eye is destroyed, or the functions of the brain when the substance of that organ is reduced by disease to a pultaceous mass, as to cure a patient whose lungs have been extensively destroyed by tuberculous disease. 'Quelle est la maladie qu'on guérit,' asks Portal, 'quand l'organe dans laquelle elle réside a souffert une désorganisation complète?'"

"Had the labour and research that have been wasted in fruitless experiments to cure an irremediable condition of the lungs been directed to the discovery of the causes and nature of tuberculous disease, with the view of deducing rules for its prevention and treatment, consumption would be regarded in a light very different from that in which it is looked upon at the present period. Our view of tuberculous consumption comprehends not merely the period succeeding the actual development of pulmonary tubercles, but the whole course of the disease from the very commencement of the constitutional disorder. By a knowledge of this constitutional disorder, we may reasonably hope to prevent, in many cases, the occurrence of the disease, and, in a small proportion, to arrest its progress in its nascent state, and even to remove its local effects: and if we go a step further back, and investigate the causes which give rise to the tuberculous diathesis in the parent, we may also hope to diminish the hereditary disposition in the offspring. This is, no doubt, opening a very wide field of inquiry; but it is most certain that, unless we enter into the subject in its fullest extent, we shall do little effectual towards diminishing the frequency, or reducing the mortality of this very prevalent and most destructive malady."

In pursuing the views of Dr. Clark, and of the large mass of individuals, who think with him, it becomes important to inquire into the characteristics of this *tuberculous constitution*. These are chiefly such as mark the strumous or scrofulous diathesis, and have been considered to consist in,—fair skin, light hair, blue eyes, and thick upper lip. Along with these signs, there are often also—long neck, narrow chest, and projecting shoulders. But, so far as our experience goes, the large mass of phthisical individuals do not present these characters. Dr. Morton says, that almost two-thirds of the phthisical patients, who have fallen under his notice, have had dark hair, dark or sallow complexions, and dark eyes; and such has been the result of our observation. In the negro, both the scrofulous and the tubercular constitution are often met with, and some of the most decided and most rapid cases of tubercular phthisis occur in them. In the United States, scrofula cannot be considered as by any means common amongst the white people,—that is, if we take Great Britain as the standard of comparison,—but it is one of the diseases to which the black population are especially subject.

\* *Sur la Phthisie*, Introduction.



The impracticability of identifying the *tuberculous* constitution with the *strumous*—as laid down by the older writers—has impressed the author before us; and accordingly he has pointed out, that it is met with in individuals exhibiting two sets of opposite characteristics;—the one attended by a florid complexion, thin, fair skin, and great sensibility to impressions, along with a corresponding acuteness of mind;—the other characterized by a dark complexion, and coarse skin, with a languid torpid condition of the bodily functions, and a like dulness of the mental faculties. (p. 6.)

This does not apply, however, to the tuberculous constitution only. We have often had occasion to remark, that scrofula has developed itself, in its most unequivocal forms, in persons possessing the latter class of characteristics, and who are generally conceived to be less liable to the affection than if they had any other form of organization.

The tuberculous, and the scrofulous constitutions appear to be distinct, though congenerous; at least, an individual may have tubercles existing to a considerable extent, in the lungs, and in other organs, without the usual indications of scrofula in the lymphatic glands; whilst we may have the latter prominently developed, without any evidences of the presence of tubercles in any of the internal organs.

It is not, however, many years since the doctrine was generally maintained, that phthisis is nothing more than a variety of scrofula. Dr. DUNCAN held, that each tubercle may be considered as a lymphatic gland in a “particularly diseased state;”—that such diseased condition is the consequence of scrofula; and that tubercular phthisis may, in every instance, be regarded as scrofula affecting the lungs. The idea is repeated by Dr. PARR, who affirms, that “tubercles are conglobate glands, enlarged in consequence of that state of the constitution, which constitutes scrofula.”

The *tuberculous or tubercular cachexia* of our author is the morbid constitutional condition, described by other writers as “latent scrofula, scrofulous diathesis,” &c.

“It is a state which may exist from birth, or be acquired at almost any period of life, from infancy to advanced old age. When thus acquired, the characters, by which it is recognised, are less clearly marked, and less easily distinguished than when it occurs as an hereditary affection, or is engrafted on the tuberculous constitution. We want, in a great degree, the external features and form, which characterize the hereditary disease. But even when the disease has been acquired after maturity, the peculiar pallid hue, approaching to a sallow tinge, together with the sunk and faded state of the features, are in general sufficiently well-marked to indicate the patient's condition. In persons of dark complexion, this is accompanied by an unvarying sallow, or rather leaden hue of skin, and a dull pearly appearance of the sclerotica; and, in the



fair and florid, by a pasty aspect of the countenance, alternating with the irregular red, and white mottled appearance of the cheeks, passing often from the paleness of death to a dark purplish hue, in a way more easily recognised than described. In more advanced life, the deep sallow cast of countenance, varying occasionally to a tinge of yellow, predominates, and marks the slowly acquired, but deeply-rooted constitutional disorder." p. 7.

The whole of this section is well worthy of attentive perusal: we are compelled, however, to say, that, in a great number of cases, the identification of the tubercular constitution is sufficiently difficult, until the mischief has attained such a pitch of development, that all hesitancy vanishes. In many cases, too, we may lay our account to discovering tubercles in the lungs, where the general signs would lead us but little to suspect their existence; whilst, in others, evidences of the tuberculous constitution, and even of tuberculous cachexy may be marked, and yet no tuberculous disease may be developed. The pathological anatomist is occasionally surprised to discover the lungs of a person, who has not died of pulmonary disorder, literally studded with calcareous tubercles, and yet the history of the case may not establish the existence of any constitution, or cachexy, or indeed of any set of symptoms, which could have foretold their existence.

The section of *tuberculous disease of the lungs, or phthisis*, properly so called, is full and accurate. The author judiciously observes, that although a certain group of symptoms may accompany tuberculous disease of the lungs, the order in which they present themselves, and the degree of their severity, vary remarkably in different individuals; in some cases the symptoms being so pronounced as to excite the attention of the most careless observer, whilst in others they are so trivial as scarcely to be noticed by any but the medical attendant, and occasionally not even by him.

The more common form of phthisis he divides into three *stages*. The *first* of these is attended by cough, some dyspnoea, slight hectic fever, languor, debility, and incipient emaciation. Such constitute the external or visible phenomena of the disease. The pathological condition of the lungs, at this period, consists in the presence of a greater or less quantity of tuberculous matter; the whole or a large proportion of which is in a state of crudity,—that is, more or less firm, of a grayish colour, and somewhat transparent; or partly of a pale yellowish colour, and opaque. The pulmonary tissue and bronchial membranes in the immediate vicinity of the tuberculous deposits may have undergone no perceptible alteration, or both may present a degree of redness and vascularity.

At this period of the disease auscultation is not as valuable as sub-



sequently, unless the tubercles are numerous, and seated—as they generally are—near the summit of one of the lungs. Under such circumstances, the sound, rendered on the percussion of the affected side, will be more dull, if practised beneath the clavicle: the respiratory murmur, heard through the stethoscope, less full and free; and the resonance of the voice greater. But, unless these indications are unequivocally different on the two sides, they cannot be much relied on, as means of diagnosis, at this early period.

The commencement of the *second stage* is considered to be evinced by a remarkable change in the expectoration. The colourless, frothy expectoration, which had previously attended the cough, is observed to contain small specks of opaque matter of a pale yellowish colour, the proportion of which gradually increases, forming patches, surrounded by the transparent portion in which it seems to float. Specks, or streaks of blood are also perceptible in the sputa. Along with this change, the other symptoms become aggravated. Hectic fever is established; emaciation proceeds; and hæmoptysis is not uncommon,—varying in amount from a slight streak in the expectoration to a considerable ejection of pure blood. Sometimes, anomalous pains occur in different parts of the body, and add greatly to the distress. In a case, which we are at this time attending, the most severe neuralgic pains are frequently experienced over the chest, abdomen, and extremities, even at the tips of the fingers, which nothing but opiates will allay; and, in a recent unfortunate case, the pain experienced in the occipital portion of the scalp was almost beyond endurance.

This is the stage of softening of the tubercles. They have become “broken down;” they are softened by a secretion from the surrounding pulmonary tissue; and the matter, of which they are constituted, passes into the bronchial tubes. About this period, adhesive inflammation generally unites the pleura costalis to the pleura pulmonalis, and the pains, experienced in the corresponding parts of the chest, are often evidences of the slight pleuritic inflammation, which precedes, and is the cause of, the union. At other times, the erratic pains are of the neuralgic character, just referred to. Auscultation now becomes a valuable diagnostic agency. Vesicular respiration is no longer audible in certain portions of the lung; whilst the respiration along the larger bronchi may be unusually loud;—the mucous, the crepitant and the cavernous rhonchus or *râle* are heard; the latter when the patient coughs especially. The resonance is greater in the affected parts; and distinct pectoriloquy may be heard in some portion of the pulmonary expanse, particularly in



the clavicular or scapular regions. For the reasons before mentioned, these signs will be heard more distinctly on one side than on the other, and this difference is an important element in the diagnosis.

The length of time, during which a patient may remain in this stage, varies greatly.

“In some cases, a few weeks may suffice to bring him to the brink of the grave, while in others many months, and even years, may pass away without any remarkable increase or diminution of the symptoms, or, there is reason to believe, of the pulmonary disease. In a small proportion of cases, a curative process is established, by which the effects of the disease are in a greater or less degree obliterated; and, if the patient's general health is maintained in a good state, there may be no return of tuberculous disease.” p. 10.

The *third* and last stage is the *colliquative*;—so termed in consequence of the wasting, produced by the profuse perspirations, often attended by diarrhœa. The expectoration is also usually very copious; the dyspnœa becomes urgent, so as occasionally to threaten suffocation, and the feet and ankles are at times œdematous. Inspection of the chest indicates great changes in that cavity. The shoulders are raised, and brought forward; the clavicles are unusually prominent, leaving a deep hollow between them and the upper ribs; and the chest, instead of being round, is flat. The shoulders are raised at each inspiration, and the chest is dragged upwards, as it were, in place of being expanded, as in health. Percussion gives a dull sound wherever there is consolidation, but, if it be practised over a cavity, the sound may not be as dull as in the second stage. The stethoscope indicates, that there is no respiration in different parts of the lung—none that is vesicular—but the bronchial respiration may be uncommonly loud, so as to be *tracheal* or even *cavernous*. Coughing gives rise to a gurgling, (*gargouillement*,) and sometimes this is manifested on inspiration; and pectoriloquy is more or less distinct—especially in the morning early—after the pus, which has collected in the caverns, has been evacuated. In this state—hopeless as it is—the patient may linger for weeks or months, or may be cut off with very slight warning. In a case, which has been recently under our care, the symptoms in the morning indicated but little augmentation of mischief, yet, in the evening the dyspnœa increased, and in a few hours the sufferings of the patient were ended. Such cases are not uncommon. Often the disease destroys by gradually wearing out the individual by a hidden, and not distressing, irritation; but, at others, the sufferings are considerable; and not uncommonly death is suddenly occasioned by the breaking of a vomica in the lungs, the matter of which cannot be evacuated with sufficient



rapidity in the enfeebled state of the patient, and the fatal event is by asphyxia.

Pulmonary consumption is essentially a chronic disease. By tables, extracted by the author from the works of BAYLE and LOUIS, it would appear, that its mean duration, in their hospital practice, is twenty-three months. This includes the extreme cases; but more than one-half, in 314 recorded, terminated in nine months, and the greatest proportion of these between the fourth and ninth months. By excluding the cases that ended within four months—which amounted to 24—as well as those that exceeded four years—amounting to 19—the average duration of the remaining cases is eighteen months.

It is manifest, that various circumstances must modify the duration of the disease. Amidst the comforts and advantages of private life we should expect it to be more protracted; and much must depend upon age, sex, constitution, &c. as well as on climate, season and other influences.

Although Dr. Clark properly admits, that tubercular phthisis is essentially the same disease, as regards its anatomical characters and constitutional origin, he considers it useful to describe the affection under different varieties; so that the diagnosis and treatment may be facilitated. We doubt, however, whether, as a general rule, more harm than good does not result from such subdivisions. Besides, it would not be an easy matter for a perfect agreement to exist amongst pathologists, in the number of varieties to be admitted, and thus confusion would be apt to be generated. This is strikingly exhibited in the systems of some of the nosologists—especially of PINEL, and GOOD—which have too often led away the student from the contemplation of the diseased action in the tissues to a needless attention to distinctions often without any essential difference. This applies, in some measure, to the five varieties admitted by Dr. Clark, although we willingly allow, that there are grounds for his division. His five varieties are the acute, and the chronic; the phthisis of infancy and childhood; the febrile phthisis—differing from the others in being usually ushered in, and attended, during its whole progress, by a considerable degree of fever; and, lastly, the latent.

On the last variety only can we make any comment. The reader, who is anxious to learn what the author has to say on the others, must refer to the work itself.

“*Latent phthisis* presents itself in two different forms. In one we have constitutional symptoms, such as fever, night sweats, emaciation, diarrhœa, &c., without any local indications of the pulmonary disease; or if they be present,



They are of so slight a character as to pass unnoticed. The other form of latent disease is still more important, because it is more insidious; being attended neither by constitutional nor local symptoms, until the tuberculous disease has made extensive progress. This form of latent phthisis, therefore, claims our closest attention; because, from the slowness of its course and the more limited extent of the tuberculous disease for a long period, we may possibly be able in many cases to check its further extension, if not to arrest its progress entirely, should we detect it at an early stage."

Perhaps, however, as Laennec has suggested, the greater number of cases of phthisis may be regarded latent in the commencement. The opinion of that accurate observer was founded on the circumstance, that nothing is more common than to find numerous miliary tubercles in lungs otherwise healthy, and in persons, who have never exhibited any signs of pulmonary consumption. We have before remarked, that the lungs may be studded with calcareous tubercles without any evidences of phthisis. Laennec further remarks, that considering the great number of phthisical and other subjects in whom cicatrices are found in the summit of the lungs, it is more than probable, that hardly any person is carried off by a first attack of phthisis. Since he was first led to adopt this opinion, on anatomical grounds, it has frequently appeared to him quite clear, from a careful comparison of the history of the case with the appearances on dissection, that the greater number of the first attacks had been mistaken for slight colds; whilst others were altogether latent, being unaccompanied by either cough or expectoration, or indeed by any symptom of sufficient weight to impress the memory of the patient. This observation of so distinguished a pathologist is important, and, from the results of our own experience, we would say is correct. It leads to the valuable therapeutical deduction, that where there is any reason to suspect the existence of a tuberculous diathesis or constitution, the greatest attention should be paid to those indications, in order to preserve the pulmonary tissue from more serious inroads.

Again, if Laennec's opinion be correct, that few die of a first attack of phthisis, we have still more reason to hope—as Dr. Clark has remarked—that the disease may admit of cure, unless the mischief has proceeded too far.

It is well-known, that after phthisis has undergone some degree of development, the symptoms may almost wholly disappear or become latent, under new conditions of the system. Pregnancy is one of these; but it occasionally happens, that symptoms of phthisis make their appearance, for the first time, during utero-gestation, and that great difficulty arises in determining, whether the pulmonic



symptoms are induced by the development of sympathies irradiating from, or connected with, the uterine condition, or whether they are truly phthisical in their character. The physical evidences of auscultation are indispensable to solve the mystery, and under such circumstances they afford us valuable aid. It is known, too, that an attack of mania will often suspend the symptoms of phthisis; the new state of excitation of the nervous system concentrating the morbid action towards it, and thus diverting from the organic mischief in the lungs. These facts are deeply interesting, as connected with the propriety of employing a revulsive system of medication in the management of phthisis; and in this way we account for the markedly beneficial agency of change of climate, society and scenery,—in short, of all the physical and moral influences surrounding the individual—and of the various revulsive remedies, which are found more decidedly beneficial in phthisis than any other mode of medication.

A section is devoted to the consideration of the particular *symptoms*, and *diagnosis* of phthisis;—to the cough, the dyspnœa, expectoration, hæmoptysis, pain of the chest, pulse, hectic fever, perspirations, thirst, diarrhœa, emaciation, œdema, apthæ, and other attendant symptoms;—as well as to the value of the physical signs of modern introduction. On all these topics, much that is judicious is given by Dr. Clark, but we can only comment on a few of them, and first on the expectoration, concerning which so much has been said,—as regards, more especially, the mode of discriminating the purulent from the mucous,—a point of much less moment, now that the mode of exploration, proposed by Laennec, has led us to a more accurate diagnosis without it. It is proper, also, to bear in mind, that the lining membrane of the bronchi can, and does, frequently secrete a purulent or muco-purulent fluid, without there being any tubercular condition of the pulmonary substance. In a case of measles, which recently fell under our care, and was accompanied by severe bronchitis, with evident narrowness of the bronchial tubes, a copious expectoration of a fluid, possessing all the properties assigned to the matter of vomica, was copiously discharged, which would doubtless have led to the belief, that an abscess had formed in the lungs, had it not been, that the secretion was established too soon after the commencement of the bronchitis, and that there was an absence of all the physical signs, which indicate the existence of a cavity in those organs. The case terminated fatally, and dissection showed, that the whole secretion was bronchitic.

Before tubercles are softened, and their contents discharged into



the bronchi, the whole of the matter of expectoration must be supplied by the bronchial mucous membrane. At this time, the sputa are generally transparent, frothy and tenacious—of that character which is, *par excellence*, considered “mucous;” but the appearance of the expectoration varies materially, and, as in cases of chronic bronchitis, it may become thicker, less frothy, and possess a more equivocal character. Still, the “mucous” portion will generally predominate so much, that if the expectorated matter be thrown into water it will swim.

When the tubercles become softened, and the matter passes into the bronchial tubes, the sputa may still consist largely of the bronchial secretion. Dr. Clark, indeed, affirms, that the bronchial mucous membrane produces the greater part of the expectoration in tubercular disease of the lungs. If the matter of expectoration be now examined, small white, curdy portions will be observed to sink in the water to the bottom of the vessel, whilst others are suspended by the more mucous portion.

In the advanced periods, where the purulent discharge is very great, it will present the appearance of globular masses—often of an ash colour: these masses predominate greatly over the bronchial secretion—at least over that which we have designated the “mucous”—and, being of greater specific gravity, they sink to the bottom of the vessel.

In making these examinations of the matter of expectoration, it is important not to permit too long a period to elapse—as the water is apt to commingle with it, and thus to create confusion—and likewise to examine more particularly the matter which is expectorated on first waking, as in this way we obtain the secretion, which has accumulated in the cavity during the night.

But, after all, as the author has remarked, when we reflect on the varying characters of the expectoration, the uncertainty of its changes according to the progress of the disease, and its occasional absence altogether—for such has been the case—we ought not to place too much reliance upon it as a diagnostic symptom, especially in the early stages of the disease.

“In conjunction with other symptoms, it has its value in the more advanced stages, in enabling us to ascertain the presence of tubercular disease in complicated cases, and the changes which occur in the ordinary progress of phthisis.”  
p. 25.

Hæmoptysis has usually been regarded as a cause of phthisis, and a very general precursor of the disease. Observation, however, has shown, that it is rather a symptom of phthisis than a cause. This at



least is the case in a vast majority of instances. We can readily understand, that in one of a tuberculous constitution, the giving way of a blood-vessel, or a hæmorrhagic transudation through its coats, may lay the foundation for tubercle; yet this perhaps rarely happens, and still more rarely can it produce the result in one whose constitution is free from any such tendency. This accounts for the well-known fact, that hæmoptysis often occurs without being preceded, attended, or followed by any thing like phthisis. If the physician will call to mind the cases of spitting of blood, which have presented themselves to his notice, he will be struck with the number that have passed off without any unpleasant sequelæ; and again, if he will reflect upon the condition of those, who have been attacked with hæmoptysis ending in phthisis, he will be able to call to mind certain signs, which may induce him to believe, that the hæmoptysis has been less the cause than the concomitant of such condition.

Where tubercles are present in the lungs, any exertion, which hurries the blood more forcibly through the pulmonary vessels, or which prevents the ready transmission of blood through them, may become the exciting cause of hæmorrhage,—the flow of blood through the lungs being impeded by their presence. In this way, hæmorrhage may take place by diapedesis or transudation, as well as by rhexis or rupture; but this latter mode is rare, and when it does occur, the hæmorrhage is usually profuse, and too often irremediable.

Some years ago we attended a young gentleman from Maryland, who was sent to the Virginia springs, in consequence of a condition of the lungs, which was regarded as incipient phthisis. He was doubtless affected with tubercles. On his way to Charlottesville, he got out of his carriage, and rode on horseback for several miles, under the heat of a July sun. On his arrival at Charlottesville, he was attacked with profuse hæmoptysis, which recurred at intervals to a most alarming extent, and in the course of about ten days he died,—death having been preceded by every physical, and other sign of pulmonary apoplexy. There was no opportunity of examining the body, but no doubt existed in our mind, that the hæmorrhage was from rupture, not from diapedesis.

“As a diagnostic symptom,” says our author, “hæmoptysis is very important. We have already stated the very large proportion of cases in which it has been found to indicate tuberculous disease. Its occurrence, therefore, before or soon after the commencement of the cough, renders the presence of tubercles highly probable.” p. 27.

But the most important of all the diagnostic evidences are those furnished by auscultation—comprising what have been termed the



*Physical signs.* When every other index leaves us in doubt, percussion and the use of the stethoscope will often render us certain. The value of these signs is now almost universally admitted. How could it indeed be denied by any one acquainted with the commonest principles of acoustics? Every old woman is aware, that if she puts one end of a rod of iron on a tea-kettle placed on the fire, and brings the other end in contact with her ear, she can tell, whether the water in the kettle simmers or boils. Auscultation also instructs us, whether the bronchial tubes are entirely pervious through their minutest ramifications, or the passage of the air is obstructed by tubercles or other causes. It instructs us, likewise, when the patient speaks and the ear is placed directly or indirectly on the chest—whether the resonance is occasioned by the voice resounding along the bronchial tubes in a state of health, or is augmented in consequence of the solidification of the pulmonary tissue by tubercles or some other morbid degeneration, which occasions the sound to pass through a solid body before it reaches the ear; or whether it is not modified, in consequence of its passing into a cavity, and thus seeming to proceed directly up to the ear of the listener. These are a few of the evidences, which auscultation by the stethoscope affords, and they are readily intelligible to any one acquainted with the first principles of physics. In like manner, according to the sound rendered on percussion, the auscultator can judge, whether the lungs possess their healthy pervious structure, or are solidified by tubercles or other morbid growth. Except by a few of the older practitioners, some of whom are opposed to all innovation, the advantages of auscultation are now generally admitted, and, after the present age has passed away, we doubt whether it will have any opponents. The remark of HUME, on the subject of HARVEY's immortal discovery of the circulation, is pregnant with instruction on this matter. It was remarked, says the historian, that no physician in Europe, who had reached forty years of age, ever, to the end of his existence, adopted Harvey's doctrine of the circulation.

The author's general observations on the physical signs accord entirely with our own views.

“In the very early stage of tuberculous disease, we can scarcely expect to derive much positive information from physical signs, because the deposition of tuberculous matter is not sufficient to produce any perceptible difference in the respiratory movements, or the sounds which accompany them. It is quite clear that, before such evidence can be presented to our senses, the tuberculous deposit must be sufficient to impede the free transmission of the air throughout the vesicular structure of the lungs, in a degree capable of modifying the sounds



which accompany respiration in a healthy state of these organs. By persons possessed of a delicate sense of hearing, and whose ear has been well educated in the varying characters of the respiratory sounds, a difference may be detected, we believe, much earlier than is generally supposed; but this degree of nicety cannot be expected from the ordinary auscultator. Those persons, however, who have endeavoured to ridicule the stethoscope, because it could not detect tuberculous disease at such an early period as we are now contemplating, could neither have possessed a right conception of the principles upon which the physical signs of pulmonary disease depend, nor a correct knowledge of the anatomy of incipient tubercles. They might as justly deny the powers and utility of the telescope, because it does not enable us to ascertain all the minute phenomena of the starry heavens. Those, also, who venture to affirm that auscultation is useless until the disease is rendered evident by the common symptoms, are equally in error. It is true that auscultation *alone* is not sufficient to ascertain the existence of the disease at a very early period; yet, even at this time, the information which it affords is often very valuable both in a negative and positive point of view. If it does not give us positive assurance of disease when it is limited, it will generally enable us to say when disease does not exist to a great extent. In doubtful cases, therefore, we should never fail to examine the sounds of respiration and the degree of resonance of the upper parts of the chest. If both are natural and alike on both sides, we may feel tolerably certain that tuberculous disease does not exist, or is very limited; if, on the contrary, they differ, we shall ascertain the presence of disease which the ordinary symptoms scarcely led us to expect: in a few cases we have even found pectoriloquy, when neither the appearance of the patient nor the symptoms induced us to anticipate it. We therefore hold it wise to avail ourselves of auscultation in all cases. It will often assist us powerfully in our diagnosis, and can never lead into error when its results are taken in conjunction with our other means of diagnosis." p. 30.

The following observations, on the *value of the physical signs*, are judicious.

"Tuberculous disease must occupy a considerable portion of the lungs before we can conceive it capable of influencing the motions of the chest to a perceptible degree; simple inspection is not, therefore, of great value in the very early stages of the disease, but it is often useful, and not unfrequently points out the chief seat of the disease when it is more extensive. Neither is percussion of much value in detecting the very early stages of tuberculous disease, as this may exist even to a considerable extent, if the surrounding pulmonary tissue is healthy, without being detected by percussion; the sound elicited may even be clearer than over a more healthy portion of the lung. This will be the case when the pulmonary vesicles are dilated, which they often are, amid groups of small tubercles. Hence, by trusting to percussion alone, we might be led to consider the diseased as the sounder side of the lung; and we are the more likely to fall into this error, the greater the extent of the emphysematous portion of the lung. In such cases, by percussing carefully, we shall sometimes find a small spot, the dull sound of which contrasts remarkably



with that of the surrounding emphysematous parts. In judging of the sonoriety of the chest, the thinness of the parietes must be taken into account; otherwise it may lead to error in the case of children and very thin persons.

“When the disease is further advanced, and the tubercles have coalesced so as to form a solid mass, or when the pulmonary tissue immediately surrounding them is rendered impermeable to the air by the effects of inflammation, a dull sound is perceptible over such portions of the lung; and if this dull sound exists in the upper part of the chest only, it may be considered as very generally indicating the presence of tubercles.

“The information which auscultation affords us, is more valuable and precise than that derived from the movements or resonance of the thorax; but in order to obtain the full advantage of it, we must employ it with circumspection, as various circumstances may render it deceptive. A morbid condition of the mucous membrane from frequent attacks of catarrh, or what has been termed by Laennec ‘the dry catarrh,’ or an emphysematous state of the lung, may render the respiratory murmur obscure, and lead to the belief that the lung is consolidated. Percussion, however, will enable us to correct both errors: in the first case it elicits the natural sound, in the latter a particularly clear, or even tympanitic sound. Emphysema is a more frequent source of error than is usually imagined. Portions of the lung are very frequently emphysematous, both in phthisical and other patients, particularly in persons subject to chronic coughs, or whose breathing is habitually laborious; and without keeping this in view, we may err in our diagnosis. In these cases, along with the obscure or absent respiratory murmur, we have the clear sound on percussion, and often a more elevated state of the chest over the emphysematous portion of lung; and if the emphysema exists more on one side than on the other, this rounder form of the chest is more remarkable, particularly in phthisical subjects, in whom the chest usually falls in under the clavicles. A little attention to these circumstances will soon enable the young auscultator to discriminate them.

“When the presence of tubercles is suspected, we examine with the greatest care the clavicular and supra-scapular regions. If the respiration be soft, and free from any rhonchus in this region, if it be the same on both sides, and if the resonance of the voice be also equal, we have strong evidence that there is no tuberculous disease in that part of the lungs where it is most frequently found, or, if it does exist, that it is to a very small extent only.

“If the tubercles are scattered generally through the summit of one lung, the resonance of the voice becomes rather stronger, and the respiratory murmur is simply rendered somewhat bronchial and less soft. If, on the other hand, they are in considerable numbers, and confined to a portion of the upper lobe, the natural respiratory murmur is in a great degree lost, the respiration being almost entirely bronchial. In such cases the resonance of the voice also is much louder over the diseased than over the sound portion of lung, and amounts often to what is termed bronchophony. As tubercles are almost constantly present to a greater extent on one side of the chest, this difference of the signs on the two sides will greatly assist us in our diagnosis in obscure cases.

“Although we have pointed out the upper part of the chest as that which requires to be most minutely examined in all cases where we suspect the presence of tuberculous disease, the examination should be extended over the



whole chest; as the symptoms may be produced by chronic pleurisy or chronic pneumonia, the signs of which must be looked for in the condition of the lower part of the lungs. The upper lobes also are not always the seat of tubercles, although they are most frequently so; hence we should not draw our conclusions until we have ascertained the state of the respiration over the whole chest. In doing this, we should not expose the chest; it may be covered with a flannel dress, which it will only be necessary in some cases to remove from the clavicular regions, where the examination should always be made with the greatest care.

“By adopting this plan of careful investigation on being first consulted, we do not hesitate to express our conviction that the greater number of cases of tuberculous phthisis would be discovered at a much earlier period of their course,—often, we are satisfied, many months, nay, even occasionally years before they now are, from the careless manner in which this class of patients are too commonly examined.” p. 31.

In the fifth section Dr. Clark treats of the *morbid anatomy* of phthisis, comprising the three distinct forms in which tuberculous matter is deposited—the gray semi-transparent granulations; caseous or crude tubercle; and tuberculous infiltration, with the state of the lung around the tubercle. All his details are the result of his own observations, as well as of those of his predecessors and contemporaries,—especially of BAYLE, LAENNEC, LOUIS, ANDRAL and CARSWELL, the last of whom, by the way, is the author of an excellent article on “tubercle,” which precedes Dr. Clark’s communication on tubercular phthisis, in the “Cyclopædia.” This section is worthy of attentive perusal, as well as the one that follows it on the principal complications of phthisis,—ulceration of the epiglottis, ulceration of the larynx, ulcerations of the trachea, affections of the pleura, perforation of the pleura, enlargement of the stomach, ulceration of the intestines, disease of the liver, fistula in ano, &c. &c. but we cannot select for comment where every thing is so worthy—seeing that our article must be restricted within reasonable limits. We shall not withhold, however, Dr. Clark’s liberal notice of an enlightened contemporary and fellow labourer in the same field, who is deserving of all the encomiums passed upon him and his excellent production.

“We cannot conclude this section without expressing our obligations to M. Louis, the able author of the *Traité de la Phthisie*. We are so much indebted to this zealous and indefatigable physician, for all our more precise knowledge of the pathological anatomy of phthisis, that we think it due to him to acknowledge the great assistance we have derived from his researches in the composition of this article; and we beg to refer our readers for more full information to his treatise, as they will not only find therein the best account of the morbid anatomy and symptoms of the disease, but will moreover learn to admire, and perhaps to imitate, the industry, the zeal, and the scrupulous veracity of this most accurate and philosophical observer.” p. 42.



As regards the *statistical history* of phthisis, which forms the subject of the eighth section of Dr. Clark's work,—although we possess many data, we doubt, whether much reliance ought to be placed upon them. We have already remarked how loosely the bills of mortality are kept in certain places, and how difficult, on that account, it is to establish any accurate ratio. There is, however, considerable uniformity in the estimates, adduced by the author, of the mortality from phthisis at different ages, in Edinburgh, Berlin, Nottingham, Philadelphia, Chester, Carlisle, Paris, and Charleston. From these it would appear, that, with one exception—although collected under different circumstances of time, place, &c.—all accord in showing the greatest number of deaths to occur between the ages of twenty and thirty; the next in proportion between thirty and forty; the next between forty and fifty; the succeeding grade of mortality being sometimes placed between fifteen and twenty; at others between fifty and sixty, or even above sixty. This remarkable agreement of all the places warrants the conclusion, that after the fifteenth year, fully one-half of the deaths from phthisis are between the twentieth and fortieth years of age, and that the mortality from the disease is about its maximum at thirty, and from that time gradually diminishes. The main results of those tables signally agree with those observed by Dr. Morton in the Philadelphia Alms-house. In the three years and a half, ending with the month of June, 1833, there died, in that institution, of phthisis, 331 persons. Of those whose ages could be satisfactorily ascertained—making 281 of the entire number—Dr. Morton preserved the following memorandum.

Under one year	-	-	-	-	-	-	-	3
From one year to ten	-	-	-	-	-	-	-	1
From ten to eighteen	-	-	-	-	-	-	-	4
From eighteen to thirty-five	-	-	-	-	-	-	-	142
From thirty-five to forty	-	-	-	-	-	-	-	51
From forty to fifty	-	-	-	-	-	-	-	42
From fifty to sixty	-	-	-	-	-	-	-	20
From sixty to seventy	-	-	-	-	-	-	-	12
From seventy to eighty	-	-	-	-	-	-	-	3
From eighty to ninety	-	-	-	-	-	-	-	2
From ninety to one hundred	-	-	-	-	-	-	-	1

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M. Andral thinks, from his researches, that males, after puberty, are particularly liable to tubercles between the ages of twenty-one and twenty-eight, whilst females seem to be more exposed to them



before twenty; and M. LOMBARD is of opinion, that after the age of puberty, females are most liable to tubercles between the eighteenth and twentieth year, and males between twenty and twenty-five.

The influence of *sex* in determining the prevalence of phthisis is not settled. The common opinion is, that females are more subject to it than males; this agrees with the report of the *Conseil de Salubrité*, and CHABROL'S *Statistique de la Ville de Paris*. In that city, the proportion of males to females seems to be not more than 10 to 13.8; but this does not apply to Hamburgh, Rouen, Naples, New York, Berlin, &c. in which the ratio is as 10 males to from 8.7 to 8.9 females,—not differing much, consequently, from the ratio of the sexes born to each other. No accurate deduction could, however, be drawn, unless we were acquainted with the proportion of the sexes living in any locality, or received into the hospital, whose medical statistics are taken. In the absence of these data, it is doubtful, whether we ought to regard the results of the tables published as even a distant approximation to the solution of the question.

In our last number, (p. 210,) we gave the views of M. Lombard, on the *influence of the different professions* in the production of phthisis; but, as Dr. Clark has observed, their value is rendered much less, owing to the number of persons engaged in each trade, not being stated.

“In consequence of this defect, it is impossible to ascertain the absolute frequency of phthisis, and we can only determine its prevalence in relation to the total mortality in each trade, which may of course vary from many causes; and the most unhealthy trades, in other respects, may appear the most healthy in regard to phthisis. Our other sources of information are still more deficient in the essential elements of such calculations, so that, in the present state of the subject, we are unable to determine by numbers the relative influence of trades; and must therefore endeavour to arrive at the most probable conclusions by reasoning upon such general observations as we possess.” p. 45.

The agencies, connected with occupations, which influence the prevalence of phthisis, are divided by the author into two classes,—*first*, those that act as local irritants to the lungs; and *secondly*, such as exert an injurious effect on the whole economy. Under the former division belong the occupations of the stone mason, miner, coal heaver, flax dresser, brass and steel polisher, metal grinder, needle pointer, and others that are exposed, during their labours, to the inhalation of an atmosphere loaded with irritating particles. Under the second division are comprised agencies that affect the general health of labourers, and thereby induce tuberculous cachexia.

Amongst these none are esteemed to act more prejudicially than



the deficient bodily exercise, and the want of pure air, which are generally united with sedentary occupations, as those of the shoemaker, tailor, weaver, and dress maker. The author thinks there is perhaps no cause, not excepting even hereditary predisposition, which exerts such a decided influence in the production of phthisis as the privation of fresh air and of free exercise, and he ascribes the exemption—comparative exemption, that is—from phthisis of seamen, butchers and tanners chiefly to their free, and regular exercise in the open air. (p. 49.)

On the *effect of climate* in the production of phthisis and of tuberculous disease in general, our information is sufficiently imprecise. A cold, damp and variable climate—such as that of Great Britain—is conceived not only to give the predisposition, but to become an exciting cause, yet the disease prevails to a like extent in many of the more dry, less cold, but scarcely less variable situations of southern France and Italy; and, if we credit the author before us, it is fearfully rife in many parts of the torrid zone, where none of these conditions of climate are met with. It is indeed extremely difficult—nay impracticable—to point out the meteorological and other circumstances, that give occasion to the greater or less prevalence of tubercular phthisis in any given locality. As a general rule, however, it would seem, that the deaths from the disease diminish in a direct ratio with the warmth and equability of the climate. Such is the result of the observations of Dr. Clark, as well as of every other medical inquirer, yet in the previous page he lays down the law, that “great heat appears also to have a powerful effect in predisposing to tuberculous disease.” (p. 49.) The table—which we have cited in an early part of this article from Dr. Gouverneur Emerson, of the average mortality from phthisis in the four largest cities of the Union—is signally elucidative of the difficulties that environ us in accounting for either the general or particular mortality of any place as compared with that of others.

Again, in every situation within the limits of the United States, the range of the thermometer is considerable,—much more so than in Great Britain. This applies even to St. Augustine, Pensacola, and other places in Florida, which have been justly regarded as eminently favourable winter retreats for the phthisical valetudinarian. The medium heat is, however, higher in those southern situations; and this, along with other atmospheric advantages, may counterbalance the evil. Yet, although the climate of the United States is proverbially one of extreme vicissitudes, the number of deaths by consumption is not as great as in England, or in many of the situa-



tions of southern France and Italy, which have been selected as winter resorts for the consumptive. Dr. HULSE of the navy has asserted, in a letter which he has recently published,\* that he has never known or heard of a case of consumption originating in Pensacola. Similar testimony has been afforded with regard to other places. Although consumption occasionally originates in the West India Islands, this is extremely unfrequent. Speaking of Jamaica, in his "Observations on Diseases of the Army" in that island, Dr. JOHN HUNTER observes, that phthisis rarely originates there; and a highly intelligent friend of Dr. Morton, who resided several years in Jamaica, stated to him, that he never knew a case of consumption originate there, not even among the blacks, *although among the latter class scrofula is of common occurrence*. Peru too, seem, to be unusually exempt from consumption. "My friend, Dr. M. BURROUGH," says Dr. Morton, "who resided upwards of four years in Lima, informs me, that he did not meet with a single unequivocal case, that originated there during that period, *although scrofula was not unfrequent*."

Yet, notwithstanding the testimony of Dr. Hunter and of others, that the West India Islands are not localities in which phthisis is common, we shall find that much difference of sentiment has existed, and still exists, respecting their adaptation for the consumptive of other countries; and, amongst the supporters of the negative, the author of the volume before us is conspicuous.

Of the *causes* of tuberculous disease, and, in particular, of phthisis, doubtless the most important is hereditary transmission. A parent, labouring under tuberculous cachexia, entails on his offspring a disposition to the same disease, which may be warded off by avoiding the exciting causes, but will be developed by causes, which would have been entirely inoperative in one not so predisposed. But it is not tuberculous cachexia alone, which lays the foundation, in the offspring for this fatal malady. There are several diseases, which, in the author's opinion, have that effect, and the most frequent and important of these are a disordered state of the digestive organs, and its consequences.

"Gout, cutaneous diseases, the injurious influence of syphilis or long courses of mercury on the constitution, debility from disease, age, &c.; in short, a deteriorated state of health in the parent from any cause, to such a degree as to produce a state of cachexia, may give rise to the scrofulous constitution in the offspring. However various the causes of the cachetic state of the parent, its effect is constantly manifested in the disposition of the children

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\* Army and Navy Chronicle for April 16th, 1835.



to tuberculous disease. This is a most important fact in the history of consumption, and is highly deserving the attentive consideration of the profession." p. 53.

Dr. Clark is a believer in the maxim—"fortes creantur fortibus"—and there is doubtless much truth in the position. It is known to apply to other animals, and does so likewise to man; but, as his physical and moral education differs, variations may be observed in the progeny, that are not met with where the mode of education or bringing up, as in animals, is essentially the same.

Of the causes, which give rise to tuberculous cachexia, in individuals not hereditarily predisposed to phthisis, he treats at some length, but we cannot do much more than enumerate them. They are,—improper diet, impure air, deficient exercise, excessive labour, improper clothing, want of cleanliness, abuse of spirituous liquors and mental causes. Too close application to study, the author esteems a powerful cause.

"It operates in several ways:—it necessarily implies sedentary habits, and hence exposes to all the evils, which have their origin in want of exercise, such as imperfect digestion, constipated bowels, &c. In addition to these, the sensorium is so much exhausted by excessive exertion, that the nervous system generally is weakened, and the various organs, of which the functions are essential to health, are deprived of their due proportions of nervous influence." p. 56.

"Too close application" may certainly produce the effects ascribed to it; but the results are only those induced by sedentary habits in general. It has not fallen to our lot to witness any case of the kind described by Dr. Clark in the last portion of the quotation, and in this we are supported by some of the oldest and most trusty observers. We do not think that the quiet—even if prolonged—exercise of the brain, in the production of its own acts, can induce that irregularity in the nervous distribution, which the author describes. On the contrary, we believe, that such a degree of exercise of the organ is conducive to health. This is a decisive conviction, founded on observation, and therefore we must express our dissent from views, to which the indolent will cling with pertinacity. Except in peculiarly irritable habits, intellectual meditation, in the age of adolescence and subsequently, can scarcely fail to be wholesome and longevous, provided only, that collateral circumstances, as sleep, diet, exercise, &c. be duly attended to; for irregularities in these respects are infinitely more detrimental than study. These remarks must not, however, be extended to those acts of the mind, which constitute the emotions. The effect of these is very different. In mental



exercises, the great organ of the intellect is quietly engaged in the performance of its proper functions, whilst in the production and the consequences of inordinate emotions, the excitation cannot fail to act, like similar agents of a physical character, and we know, that if they are sufficiently intense, the consequences may be fatal. These views, we are aware, are opposed to the opinions of the *gens du monde*, as well as of some of the professional and popular writers on the subject, of whom the fanciful MADDEN is not one of the least conspicuous, but they are nevertheless based on careful, unprejudiced, and repeated observation.

On the question of the *communicability* of phthisis Dr. Clark's opinions are, in the main, analogous to our own. We, ourselves, have no evidence whatever, that it can be induced in this manner; yet singular instances of the kind have been related by different authors, and we have heard many marvellous accounts of what, at the least, must be esteemed unusual coincidences. In Italy, the contagious nature of phthisis appears to be admitted by almost all. VALENTIN\* asserts, that when an individual dies at Naples of this disease, in a private house, not only are his effects, and the furniture which he has used, destroyed, but the walls are scraped and whitewashed, and the ceilings, floors and partitions removed. Similar views appear to be entertained at Rome, where phthisis is even more frequent than at Naples. Where such a sentiment prevails so extensively amongst the profession, it would appear arrogant in us to presume, that their observations have been altogether erroneous. Certain it is, that the cases are very rare, in this country, in which the communication of the disease from one to another by contagion could even be suspected. We can understand, however, that if a person is constantly breathing the generally deteriorated atmosphere of the rooms, which the consumptive occupy, the health may ultimately suffer, tuberculous cachexy be induced, and ultimately confirmed phthisis.

“Reviewing,” says the author, “what has been said respecting the causes of tubercular cachexia, they may be stated generally to comprehend all those circumstances, which debilitate, and increase the irritability of the system, impede the due digestion and assimilation of the food, diminish the various secretions and excretions, and induce internal sanguineous congestion. Defective assimilation,—from whatever cause it proceeds,—whichever be the first link in the chain of morbid actions, which derange this process or series of processes,—induces, according to our view, tuberculous cachexia, and whether the primary error exist in the inadequate supply of food, or in the incapacity

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\* *Voyage médical en Italie, fait en l'année 1820, &c.* p. 40.



of the organs to extract from this the elements of nutrition, to assimilate and apply them to the separation, growth, and various purposes of the animal economy, the ultimate result is the same." p. 57.

The consideration of the causes that determine tuberculous disease of the lungs is largely connected with that of its *pathology*, which the author does not treat of until the following section. The chief causes he separates into two classes;—those that act immediately on the lungs;—and those that act partly on the lungs, and partly on the general system. To the *first* class belong—bronchitis, pneumonia, hæmoptysis, pertussis, and some other pulmonary affections; to the *second*, fevers, and especially the exanthematous—measles, scarlet fever and small-pox. Other affections, such as rheumatism, syphilis, psora, &c. have been esteemed causes, but the observations upon which this opinion rests do not appear to Dr. Clark to have been made with sufficient accuracy to merit notice.

The action of these causes will be best understood after briefly glancing—for we have not space to do more—at the pathology of phthisis, and of tuberculous diseases in general,—a topic, which occupies the 11th section of the work before us.

Two leading views have been entertained on this subject. According to the one, a tuberculous constitution—natural or acquired—must always exist before any exciting cause can produce phthisis; according to the other, the disease is a chronic inflammation of the pulmonary tissue and may be developed in the absence of any such constitution. The author adopts the former opinion.

“From remote antiquity,” he observes, “to the present day, the disease of which this matter, (tubercular,) constitutes the distinctive anatomical character, has received different names according to its development in particular organs and tissues. In the external glands and in bones, it is commonly called scrofula; in the lungs phthisis; and in the glands of the mesentery, tabes mesenterica, &c. The identity of these affections was only suspected by the ancients from the similarity of the general symptoms, but has been demonstrated by the moderns on the clear evidence of morbid anatomy; an increased attention to which science and the study of the causes of the disease has led pathologists to entertain more accurate opinions and more comprehensive views regarding it.”

Of the value of this hypothesis, regarding the identity of the scrofulous and the tuberculous diathesis, we have already spoken. That a predisposition to phthisis must exist, in order, that the affection shall be developed by any exciting cause, appears a self-evident proposition; but may not those very affections—bronchitis, pneumonia, &c.—induce the alteration in the general and pulmonary systems



which may be requisite for such developement? BROUSSAIS is of opinion, that chronic catarrh is a frequent cause of pulmonary tubercle, whilst there can be no doubt, that catarrh is often also symptomatic of tubercle. His sentiments are fully and clearly explained in his 171st Proposition with the appended commentary.

“The term phthisis pulmonalis, expressing only the disorganization, which is the product of inflammation of the pulmonary parenchyma, ought not to be applied to this phlegmasia. It would be better to call it chronic pneumonia, thus specifying the tissue of the organ in which the disease commenced.”

This proposition places the author amongst those, who embrace the second of the two great leading views, which we have mentioned.

In his commentary on the proposition he gives a further development of his opinions.

“Convinced,” he says, “by long observation, that tubercles are not the cause, but the effect of prolonged irritation of the pulmonary tissues, the author of the ‘Propositions’ conceived the idea of banishing all these vague denominations, and of restricting himself to the pure and simple detail of facts. The lungs are never disorganized except from the effect of an irritation, and this may commence, sometimes in the mucous membrane, sometimes in the serous, and at others in the intermediate tissues. In every case, when they are disorganized, there is always irritation of the parenchyma, or of this intermediate tissue; and as all the irritations of vascular fasciculi are grades of inflammation, it may be asserted, that pneumonia always exists, when there is a disorganizing irritation of the pulmonary parenchyma, and that these pneumonias cannot differ from each other except in the tissue in which the irritation predominates, and in their degree of intensity.”

These views are altogether antithetical to those embraced by Andral, and supported by our author. The former of these individuals remarks, that in order that inflammation of the mucous membrane of the air passages shall be followed by the production of pulmonary tubercles, there must be a predisposition; and if this be admitted, he says, we can easily conceive, how, in one individual, very slight bronchitis may be sufficient to produce tubercles, whilst others may not become phthisical from the most severe and long-continued catarrh.

There can be no doubt, that there must be, in every case of disease, a predisposition, in the particular tissue affected, to assume morbid action. We know, that if a dozen persons expose their feet to cold and moisture, they may not all be attacked with disease, and they, that are so, may not all labour under the same affection. In one, the mucous membrane of the throat; in another, that of the nose; in another, that of the air passages; in another, the serous membrane covering the lungs; in another, that lining the abdomen, may exhibit



signs of disease;—one tissue, rather than another, becoming implicated in consequence of the greater predisposition in such tissue rather than in another to assume the morbid condition. When, therefore, bronchitis or pneumonia induces tubercles, we may presume the existence of a tuberculous constitution; but, at the same time, we can understand that, by continuance, these diseases may induce that very constitution or cachexy, and, in this way, be not only the predisponent, but the exciting cause of the disease.

Yet such is not the view embraced by the majority of modern pathologists, although it is maintained by some of the most intelligent; and, we think, is strongly confirmed by the fact, that those occupations, in which fine particles of hard substances are inhaled, are markedly liable to pulmonary consumption. Dr. ALISON, of Edinburgh, states, that there is hardly an instance of a mason, regularly employed in hewing stones, in Edinburgh, living free from phthisical symptoms to the age of fifty. This fact and many others of the same kind are cited by Dr. Clark, but he is disposed to believe, that the inhalation of the substances acts only as an exciting cause in such cases, by developing predispositions that may have previously existed. If his view, however, be admitted, it would seem to follow, that all men—at least the exceptions must be few—are predisposed to pulmonary disease, and require but an adequate exciting cause to have the mischief developed.

“Although,” he observes, “we believe inflammation incapable of producing tubercles in a healthy subject, we are of opinion, that it may prove a determining cause in a tuberculous constitution; and on this account the most sedulous care should be taken to prevent its occurrence in such subjects, and to remove it when it has taken place.” p. 58.

But the difficulty is to pronounce upon the existence of such tuberculous constitution. There are cases in which we have no hesitation whatever, but, as we have seen in an early part of this article, the physical signs are by no means such, in every case, as to enable us to decide definitively that such a constitution exists, and it is too often the result only, which has to be invoked to establish the position.

As a subject of diagnosis, therefore, this investigation to detect the presence of a tuberculous diathesis, is not as available as it is represented to be by many authors; but it is conveniently invoked by them in support of the view, that a tuberculous predisposition must always exist in order that phthisis shall be developed—the result being presumed sufficient evidence of the position.

But, whatever may be the value of the pathological views in ques-



tion, the *prophylactic treatment* founded upon them is universally appropriate. In respect to prevention, as regards parents, Dr. Clark properly observes, that were parents convinced, that the health of their children depended upon their own, a beneficial effect might be produced among the more reflecting part of mankind, and especially among families of a strumous habit.

“If more consideration were bestowed on matrimonial alliances, and a more healthy and natural mode of living were adopted by persons in that rank of life which gives them the power of regulating their mode of living according to their own choice, the predisposition, which is so often entailed on their offspring might be checked, and even extinguished in their family, in the course of a few generations. In the present state of society, the reverse of this very commonly happens, and from the total regard of the precautions alluded to, the third generation often terminates the race. The children of dyspeptic persons generally become the subjects of dyspepsia in a greater degree, and at an earlier period than their parents; and if they marry into families of a delicate constitution, their offspring become highly tuberculous, and die of phthisis in early youth or even in childhood.”

These remarks are unquestionably just; but how impossible to regulate the feelings of individuals so that these prudential restraints should be regarded! The cold suggestions of prudence rarely meet with attention, where the affections are deeply involved, and every practitioner, who has been consulted respecting the propriety of marriage, where one of the parties has laboured under a disease, or a predisposition which is unquestionably hereditary in its nature, and who has given the advice proper on the occasion, must occasionally have had the mortification to find his advice wholly disregarded, and that he has, at the same time, forever lost the good opinion of both the parties.

The rules of conduct to be observed by mothers during pregnancy, as laid down by the author, are probably accurate, but it is not so easy to trace the relationship between cause and effect in this case. The prevention of hereditary transmission regards the condition of both parents at the time of a fecundating union; but not so pregnancy. If a tuberculous diathesis be induced during intra-uterine life, it falls under the head of acquired predispositions, of which we have spoken in an early part of this article. On all this matter some judicious remarks are contained in a recent essay by Professor CALDWELL, of Lexington.\*

Under the head of “prevention as regards children,” the author properly remarks, that although we are not acquainted with any direct remedies for the constitutional predisposition to tuberculous

\* “Thoughts on Physical Education, &c.” p. 31. Boston, 1834.



disease, there can be no doubt, that we are possessed of the means of correcting it, in many instances, in an indirect manner.

“By placing the predisposed child in circumstances the most favourable to health, as regards nourishment, air, exercise, &c. by removing functional derangements as they occur, and by maintaining especially a healthy condition of the digestive organs, we may improve the constitution so as to overcome the hereditary predisposition.” p. 64.

With this view, he speaks of the importance of having a good nurse for the infant, where the mother is strumous, and the thing practicable, which it, of course, frequently is not; of paying proper and obvious attention to the clothing and to bathing; of the necessity of breathing a pure air—“an indispensable requisite for strumous children; indeed, without this all our efforts to improve their health will fail”—and, where practicable, of living in a dry situation;—not in the atmosphere of a building overhung by trees, or surrounded by a thick shrubbery, which is in a state of constant humidity except in the driest weather.

“A low situation, surrounded by trees, may be capable of inducing tuberculous disease in an infant, whereas a rising ground, a hundred yards distant, may afford a healthy site for his residence. The dryness of the air in towns, which is the consequence of good drainage and an artificial soil, is at once the safe-guard of the inhabitants, and a compensation, in some measure, for the want of that unimpeded circulation and renewal of pure air, which the country alone affords.” p. 65.

During the whole period of childhood the same system as regards air, exercise, clothing, &c. must be pursued. The diet must be regulated according to the condition, and attention be paid, that the gastric, intestinal and other functions are properly accomplished.

It is, however, subsequent to the age of childhood, that there is the greatest danger of phthisis, and accordingly, between the ages of fifteen and thirty-five, great attention is necessary in the way of *hygiène*.

“The chief object of our preventive treatment ought to be the maintenance of a healthy condition of the chylopoietic system, and an active state of the pulmonary and cutaneous functions; for which purpose very simple and available remedies are found beneficial: combined with these, warm bathing, frequent friction of the surface, exercise in the open air, and above all on horseback, along with a residence in a healthy part of the country, will often in a few months produce the most beneficial effects.” p. 68.

There is one variety of exercise, recommended by the author, which we have always considered of great hygienic importance, when properly adapted to the case. It is that of the respiratory organs themselves, and of all the muscles employed in the process of respi-



ration;—the great object being to expand the chest and ensure the full action of the lungs.

“Dr. Autenreith, of Tübingen, according to Sir Alexander Crichton, first recommended the practice of improving the narrow and contracted chest by deep and frequent inspirations. He advised his patients to place their hands upon some solid support, and to exercise themselves by taking repeated deep inspirations, but cautioned them against carrying this so far as to produce pain.\* We are in the habit of recommending the full expansion of the chest in a manner somewhat different from that of Autenreith; we desire the young person while standing to throw his arms and shoulders back, and while in this position, to inhale slowly as much air as he can, and repeat this exercise at short intervals several times in succession: when this can be done in the open air, it is most desirable, a double advantage being thus obtained from the practice. Some exercise of this kind should be adopted daily by all young persons, more especially by those whose chests are narrow or deformed, and should be slowly and gradually increased. Fencing, the use of dumb-bells, and similar modes of exercising the arms, will also be eminently useful in attaining the important end we have in view; but they should never be carried so far as to induce fatigue or uneasiness. If regularly employed by boys under this necessary restriction, they would not merely expand the chest, but would tend to remove that disproportionate development of their upper and lower extremities which we so frequently observe in youth. By thus exercising the upper extremities and the muscles of the trunk, and inflating the lungs to their full extent, the chest and pulmonary organs will acquire their due proportions. We also consider exercises of this description particularly necessary to persons engaged in occupations which require a bent or stooping posture; and especially to those mechanics, as tailors and shoemakers, whose constrained position seldom allows the upper part of the lungs to be fully expanded.

“Reading aloud and public recitation will also, when prudently employed, be useful in strengthening the pulmonary and digestive organs, and in giving tone and power to the voice. The clear and distinct enunciation, which is acquired only by long practice, is seldom found associated with pulmonary disease, and we are therefore inclined to commend the practice of recitation and elocution at schools. It would, we believe, be difficult to cite the example of any great orator who died of pulmonary disease, while many might be adduced whose health was improved and their life prolonged by the beneficial effects of this exercise. Cicero was disposed to phthisis in early life, and Cuvier attributed his exemption from pulmonary disease, to which he was expected to fall a sacrifice, to the increased strength which his lungs acquired in the discharge of his duties as a public lecturer.

“Many of the modes of exercising the pulmonary organs which we have just described will be equally useful to young females, although they will not require to be carried to so great an extent. We consider the ancient and well-known game of battle-door and shuttle-cock one of the very best exercises which can be adopted by them within doors.

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\* *Crichton*, op. cit. p. 137.



“Although we so highly approve of every judicious means of exercise, we would strongly condemn those which require excessive bodily exertion, such as climbing precipices, &c. and which have been sometimes recommended for the prevention of phthisis. These violent measures undoubtedly exercise the lungs, but they at the same time excite the action of the heart, and render it liable to be oppressed by the blood being suddenly forced upon it by the inordinate muscular exertion. We consider all such violent exertion fraught with danger: indeed we have met with several cases of diseased heart in young persons, apparently originating in forcible and long-continued exertion, as in boat-rowing, &c.

“Of course, all these modes of exercise are quite incompatible with the existence of organic disease; it will therefore be incumbent on the medical attendant to ascertain the actual condition of the lungs before he recommends the adoption of any measures which would tend to aggravate the disease of which those now proposed are merely preventives.” p. 69.

It need hardly be added, that, in every case, the greatest caution is requisite. The kind and degree of pulmonary exertion must be adapted to the particular exigency; and, in all, the use of instruments, which interfere with the due play of the respiratory functions must be sedulously avoided.

Of the “remedial measures,” of which Dr. Clark speaks as preventives, we think it scarcely worth while to say any thing. He enumerates mercury, taraxacum, sarsaparilla, antimony, sulphur, mineral waters, alkalies, lime water, and the muriates of lime and baryta;—not that he considers all these to be useful hygienic agents, in every case, but he thinks there may be cases in which the one or the other may be appropriate. This may be so; but the trust to be reposed upon any of them ought to be slight indeed. Mercury, he properly says, should “be administered with great caution to persons of a tuberculous constitution.” Why then place it amongst the prophylactics? Taraxacum he considers “a very valuable medicine in tuberculous constitutions, from its power of diminishing abdominal plethora, and its especial influence on the urinary and biliary secretions.” To which we would reply—Quod est demonstrandum. What are the evidences that the taraxacum has the power of diminishing this abdominal plethora, of which the author says so much, and why should a remedy, which diminishes such plethora, be so valuable in tuberculous constitutions? What, again, we would ask, are the proofs, that the taraxacum has a special influence on the biliary secretions? Either the experience of the author, or our own, is faulty. We have not had the slightest reason for believing, that it possesses any such powers, and we regret to see, that the *practical* value of Dr. Clark's remarks on other subjects should be weakened by the equal force with which he expresses himself on matters so doubtful.



Similar comments are applicable to his observations on the prophylactic properties of sarsaparilla, and indeed of most of the other hygienic agents, to which he has given the epithet "remedial." The practitioner must of course be guided, in all cases, by general principles of prevention, and there are numerous articles—possessing the most different properties—in the catalogues of the *materia medica*, which might have been specified by the author as adapted to particular emergencies with as much propriety as those he has mentioned.

Some remarks are made on the prophylactic employment of purgatives, tonics, bathing, travelling, sailing, climate, &c. but they demand no special notice. Of all these prophylactics the three last are, in our opinion, markedly the best. But we shall have to revert to them presently, as connected with the *treatment* of phthisis.

This is unfortunately the most difficult and least satisfactory part of the subject. When once fully formed, indeed, the disease is beyond the reach of our remedial measures—it is truly an *opprobrium*.

We shall briefly allude to the different agents to which attention is drawn by Dr. Clark. Bleeding is the first. Small and repeated bleedings have been employed by some physicians at the commencement, and often even in the confirmed stage of phthisis. DOVAR was accustomed to bleed to the amount of six or eight ounces every day for the first fortnight, and gradually to increase the period between each repetition of the operation, by employing it at the respective intervals of every second, third and fifth day, for the three successive fortnights. The practice has been advocated, though not always to the same extent, by MEAD, PRINGLE, DONALD MONRO, FOTHERGILL, STOLL, HOSACK, CHEYNE and others.

That symptoms and complications may arise, which may demand general blood-letting, is doubtless; but to expect to remove the morbid condition in tubercular phthisis by blood-letting, or the symptoms, which often indicate such condition, is a forlorn hope. We feel satisfied, indeed, that much mischief is done by its indiscriminate employment, and that nothing, in many cases, is more likely to confirm the tubercular cachexia. At the same time, when the symptoms indicate its use—when there is inflammatory action of the pulmonary tissues associated to some extent with the disease—it cannot be pretermitted.

Throughout the progress of the disease local blood-letting, practised with the view of removing accidental inflammatory or hyperæ-



mic complications, may be had recourse to with the most marked benefit.

On the use of emetics Dr. Clark treats at some length. At one time, ordinary emetics were regarded as specifics in phthisis, and Dr. THOMAS YOUNG, in his "*Treatise on Consumptive Diseases*," says, it is remarkable, that a very great majority of the cures of consumption, which are related by different authors, have either been performed by emetics, or by decidedly nauseating remedies. The opinions of MORTON (of England,) of SIMMONS, of PARR, BRYAN ROBINSON, THOMAS READ, MARRYAT, DUMAS of Montpellier, and of GIOVANNI DE VITTIS, physician in chief to the military hospitals of the Neapolitan army—who has published a work on the advantage of antimonial emetics in phthisis within the last few years—are fairly stated by the author. His mode of accounting for their beneficial effects does not, however, accord with our own. It is probably known to most of our readers, that the researches of Professor Carswell, of the University of London, have satisfied him, that tuberculous matter is first deposited on the free surfaces of mucous membranes; and he thinks it probable, that it may be equally deposited on the surfaces of all mucous membranes, but that it is speedily removed from many—as from that of the intestinal canal—by the constant action kept up on them by the passage of foreign substances; whilst the structure of the lungs is such as to favour the retention of the morbid deposit. Now, emetics, he conceives, may remove this deposit by the succussion they give to the lungs, "and thus prevent the *localization* of the disease, and give time for the correction of the constitutional disorder." p. 76.

But, in the first place, it may be remarked, our examinations have by no means led us to agree with Dr. Carswell as to the primary seat of tubercle; and, in the second place, we regard his explanation of the agency of emetics as entirely too mechanical. The greater part of their good effects has seemed to us to be owing to the revulsion they operate, and hence the advantages of sea-sickness, united, as it usually is, with the revulsion, which a thorough change in the physical and moral influences around the individual is capable of effecting.

"The repetition of the emetic must, in our opinion," says the author, "be regulated according to the nature of the case. When it is given with the view of preventing the deposition of tuberculous matter, it may, perhaps, be sufficient to repeat it once or twice a week. When the case is more urgent, and the patient is threatened with the deposition of tuberculous matter in the lungs, or when the presence of this is already suspected, emetics may be much more



frequently repeated; but in all cases it will be necessary to watch their effects on the gastric system, and to suspend the use of them the moment they appear to excite irritation there. During the interval between the emetics, it may promote the end we have in view, *to give ipecacuanha, alkalies, and other medicines, which have the effect of promoting the bronchial secretion, in minute alterative doses.*"

We do not like the therapeutics of the part of the sentence, which we have marked in italics. The author can scarcely wish us to understand, that the ipecacuanha, and the alkalies, have any specific effect, "in minute alterative doses," in promoting the bronchial secretion. This result must be altogether relative, and must depend upon the condition of the membrane. Remove the pathological condition, which affects the due secretion, and it will be promoted, but in no other way; and hence it is, that all expectorants can be indirect agents only.

Of digitalis, as Dr. Clark properly remarks, it is difficult to pronounce a decided opinion, but that very difficulty shows it must have been greatly overrated in many instances. We have employed it extensively in public and in private practice, but, although the pulmonary symptoms have appeared to be suspended whilst the system was markedly under its influence, we are not aware of a single case in which it has seemed to us to produce permanent benefit.

Of iodine, Dr. Clark has had no experience, but he quotes the commendations of it in the recent work of Dr. Morton of this city, (Philadelphia,) observing, at the same time, that the results of experiments, made with iodine, in England, have not by any means corresponded with those of Dr. Morton. The same may be said of the results of the experience of many of the practitioners of this country. Although some think as highly of it as that gentleman, the large mass have found it of no marked advantage in the incipient stage—the stage when alone good is to be expected. We have used it to a considerable extent, especially in public practice—in the form of the ioduretted hydriodate of potassa—the one recommended by Dr. Morton—of the hydriodate of potassa, the tincture of iodine, the iodo-hydrargyrate of potassium, the iodurets of mercury, &c.; but the most careful, and unprejudiced examination has not enabled us to say, that any effect was induced, which could unhesitatingly be referred to any of these preparations. In the Baltimore Infirmary, it has been a question of interest with physician, and student to decide this matter, and such unfortunately has been the negative opinion formed. The formula, employed by Dr. Morton, is the following:—  
℞. Iodinæ, gr. iij. ; Potassæ hydriodat. gr. vj. ; Aquæ distillatæ, ℥j. M.



Dose,—from three to five drops morning, noon, and night, in a little water.

Of the *climate* best adapted for the consumptive, or for those of a tubercular constitution, we have spoken at some length in a former number of this Journal.\* The remarks made on climate as a cause of phthisis, in an early part of this article, will also aid us in the decision. It is when threatened with the disease, that the great advantage is to be derived, from change of climate. In the incipient state, too, advantage may accrue from the revulsion produced in this manner, but in the generality of cases of confirmed consumption, where cavities exist in the lungs, and purulent expectoration, and hectic fever are present, it is the height of cruelty to expatriate the sufferer, and to send him away to die, far from his friends, his comforts and his home. Still, there may be, as Dr. Clark suggests, some chronic cases, in which the measure may prove useful at any period of the disease—even when tuberculous cavities exist in the lungs—when the tuberculous deposit is very limited, and passes through the various stages of softening, &c., without exciting much local or constitutional irritation.

“But,” adds the author, “at whatever period the change is adopted, it is of the highest importance to impress upon the mind of the patient and his friends, that if the measure is attended with favourable effects, it ought, in a large proportion of cases, to be continued for several successive years, in order to produce a full and permanent influence upon the constitution; and must, at the same time be aided, as has been already remarked, by the adoption of such a regimen and the use of such remedies as are known to improve the general health, and correct disordered functions.” p. 80.

Dr. Clark's opinions respecting Madeira, as the best retreat for the consumptive, have been long known, and they remain unchanged. According to the report of Dr. RENTON, who resides there, the total number of pulmonary invalids, who arrived in the island during the season of 1833-34, was 66. Of these 15 died; 43 returned to their homes; and 8 remain on the island. “Of the 15 fatal cases,” says Dr. Renton, “13 ought not to have left their homes; of the 43, who left the island for England, or other parts of the world, 36 were very much improved: indeed I may say a large majority of them went away *well*,”—a result very different from that a few years ago, when persons were sent to Madeira in the advanced stage of the disease.

In point of climate, the Bermudas, and the Canary Islands, the author thinks, approach nearest to that of Madeira. His objections

\* No. XXIII. for May, 1833, p. 178.



to the West Indies are strong. They are forcibly expressed in his work on "Climate," and are confirmed in the one before us.

In the former work he states, that the climate of the West Indies is an improper one—generally speaking—for consumptive patients.

"It is too hot during the night; and, during the day, the high temperature and cloudless skies almost entirely defeat one of the chief objects for the attainment of which the invalid emigrates to a warmer climate:—I mean exercise in the open air. He could scarcely venture to take exercise, even on horseback, after 7 o'clock in the morning, during the coolest season; and, as there is hardly any twilight within the tropics, he would not be able to enjoy the coolness of the evening, in this way. If we have found cause to condemn Italy as a summer residence for consumptive patients, there seems no just reason, why we should commend the West Indies, even in winter, the temperature of which is above the summer temperature of any place in the south of Europe. If to this consideration we add the numerous privations, annoyances and discomforts, which are almost inseparable from a residence in the West Indies, I think we might almost be justified in erasing these islands from the list of places suited to the phthisical invalid. Among other contingent disadvantages may be mentioned—the difficulty of procuring houses in proper situations, the expenses of living, the annoyance of musquitoes, sand flies, &c. &c. If to these objections, founded on an impartial consideration of the nature of the climate and of the disease, we add those of a more conclusive nature, derived from the experience of medical men, I conceive the question of the propriety of sending patients, labouring under confirmed consumption, to the West Indies, will be set at rest for ever."

But, after all, these objections of Dr. Clark, apply only to such as are in confirmed consumption—a condition not to be expected to be materially benefited by climate any where. We have reason for knowing, that the tubercular constitution has been modified, and incipient phthisis removed, by a residence in the West Indies during the winter; and, on this subject, we have probably more opportunities for testing the climate than falls to the lot of practitioners on the other side of the Atlantic. We have already seen, that although pulmonary consumption happens occasionally in those islands, it is by no means frequent. This, so far as it goes, is in favour of the climate; but, in addition, powerful evidence, derived from experience, could be adduced by us.

To show the striking difference between the views of Dr. Clark, and those generally entertained by American physicians, we may merely remark, that whilst he, in the work before us, is of opinion that—

"The West Indies may be suited to some constitutions as a preventive; but when tuberculous disease exists in the lungs, we can only repeat, that the concurrent testimony of all the medical men whom we have consulted on the sub-



ect, and whose opportunities of judging were ample, establishes the fact, that consumptive cases, sent thither from this country, (England,) proceed much more rapidly to a fatal termination than in temperate climates"—Dr. Morton thinks "it propable, that after all, the West India Islands are the most suitable resort for the consumptive, although sufficient observations have not yet been made to allow of a fair comparison!"

In Italy, Rome, Pisa, and Nice are preferred by Dr. Clark for the consumptive during the winter, but no part of Italy he conceives to be favourable for such invalids during the summer. In the south-east of France, he recommends Hyères, and in the south-west, Pau;—in England, Torquay, Undercliff, (in the Isle of Wight,) Clifton, Hastings, St. Leonard's and Brighton.

Of the winter retreats of our own country, Dr. Clark could not be expected to make mention. They are, however, the most interesting to the inhabitants of this Union, and have been, with us, a topic of absorbing and instructive investigation, the result of which is a conviction, that, in the territory of Florida, situations are to be met with, which possess every advantage, so far as regards atmospheric influences, which the valetudinarian could desire. We have elsewhere collected testimony respecting the fitness of St. Augustine for a winter retreat;\* and, in an early part of this article, allusion has been made to the views of Dr. Hulse, as respects the advantages of Pensacola. Neither space nor inclination will allow of further expatiation at present.

Thus far, we have referred only to the climate best adapted for the phthisical valetudinarian during the winter. It is often a momentous subject of inquiry to decide, what course the invalid should pursue during the summer season. Where the mischief is incipient, there is nothing perhaps comparable to the revulsion, which the change of physical and moral influences, during a sea voyage, is capable of effecting, and even in the more advanced stages life appears to be prolonged by it. The facilities are now so great for crossing the Atlantic, that a sea voyage is easily undertaken, with every comfort provided that is practicable; and, from the commencement of May, no countries perhaps could afford greater advantages for a summer journey and temporary residence than Great Britain or France. The invalid can remain a few weeks in either, and return before our autumnal vicissitudes are experienced to any extent.

Next to a sea voyage, travelling by land, through different parts

\* "Elements of Hygiène," by Robley Dunglison, M. D. &c. &c. p. 184.



of our own country, is to be recommended, and now, that the distance between places has been so much reduced by rail-roads and steam navigation, a thorough change of the atmospheric influences—barometric, thermometric, hygrometric, &c.—can speedily be obtained, with all the other advantages of change of society and scenery, attendant upon travelling exercise. The physician must, however, use his best judgment in adapting his advice to the particular case,—employing especial caution where the local affection exists to any great extent.

As a succedaneum for change of climate, during the winter, a regulated temperature has been advised in the apartments of the sick. The best rule, perhaps, is to accommodate this to the feelings of the patient. The air of the chambers becomes, however, so vitiated, whilst proper ventilation is scarcely admissible in the depth of winter, and there is withal so much monotony in every thing surrounding the invalid, that more of detriment appears to arise from these causes than of good from the equability of temperature. This has, in part, induced Dr. Parrish, and others, to advise vigorous exercise, and exposure to the air as the most efficient remedies in pulmonary consumption; the exercise to be pushed so as to amount even to labour, and the patient not to allow “the dread of taking cold to confine him on every occasion, when the temperature may be low, or the skies overcast.” We have adopted the recommendation of Dr. Parrish in many instances, and have never found disadvantage to accrue from it. On the contrary, the invalid has always appeared to be benefited by the new action induced.

These are the only “general remedies,” mentioned by Dr. Clark. Perhaps they are all that are worthy of notice. The hydrocyanic acid is a favourite with some, but is passed over by the author—probably because he had nothing to say in its favour.

Of *local remedies* the author next treats, and, in the first place, of local bleeding, of which we have already said enough. He separates cupping from the class of counter-irritants, although we are disposed to ascribe its main effects to revulsion, and but little to the diminution of the quantity of the circulating fluid. This view is, we think corroborated by one of his own remarks:

“We consider cupping a more effectual mode of abstracting blood from the chest than leeches, and the *dry cupping which we always employ at the same time, we think of considerable utility.*” p. 81.

The philosophy of a subsequent observation we do not understand

“We would take this opportunity of cautioning the young practitioner, no



to be too free in the application of leeches in laryngeal irritation: *we have known a patient lose his voice entirely by the application of a dozen leeches to the region of the larynx.*"

We do not think it would be an easy task for the author to establish, that the aphonia was a consequence of the use of the leeches.

Of counter-irritants he necessarily speaks favourably. Whatever permanent good is to be derived must be, we think, from revulsive agents, in which we include counter-irritants proper, along with every agency that can excite a derivation from the seat of morbid concentration of vital activity.

Of dry fumigations—with resinous and balsamic substances, and with tar—Dr. Clark says nothing from his own experience. We can scarcely conceive the case of tuberculous disease in which they can be proper, or the symptoms, that could unequivocally indicate their employment. In chronic bronchitis, on the other hand, the application of a gentle excitant to the vessels themselves, which are concerned in the secretion, may be, and often is, beneficial, but in this case there is no adventitious product to be softened, and broken down, by the supervention of inflammation, as in incipient phthisis.

Of the inhalation of watery and medicated vapours he has no opinion—properly, we think—but he says, that when the air of a consumptive patient's room is very dry, the cough frequently becomes more troublesome, and some advantage is derived from a basin of warm water placed near the patient: "the vapour softens the air, and renders it less exciting to the irritated surfaces of the air passages, and saves the patient the irksome labour of inhaling."

The inhalation of chlorine, he thinks, has produced relief in persons only, whose lungs were diseased to a very limited extent.

"The mode, which we adopt in the use of chlorine is to direct the inhalation to be continued for five minutes only, and to be repeated frequently in the course of the day. We find, that a longer period produces a sensation of fatigue, and the patient returns to it with less readiness. We begin with five drops, and gradually increase the quantity to forty, but rarely go beyond this." p. 84.

Iodine, and substances in the gaseous form—hydrogen, carbonic acid, oxygen, and nitrous oxide have been employed, but without any such advantages, the author considers, as to entitle them to estimation: and he judiciously adds:

"When more rational and just views of the pathology of phthisis are generally entertained by the profession, we shall cease to hear it asserted that this disease is to be cured by local applications. We do not, however, condemn such measures as useless; on the contrary we consider them valuable as pallia-



tives, and of great service as adjuncts to those remedies, which are directed to amend the condition of the general health, and to correct the tuberculous diathesis: but we certainly disapprove of any local remedy being relied on as the principal means of curing a disease, which depends upon a morbid state of the constitution. Such an error is founded on imperfect views of the real nature of tubercular phthisis, is productive of much mischief in practice, and cannot be too strongly reprobated."

In the third subdivision of the section on the treatment of phthisis—which concerns the *treatment of particular symptoms*,—cough, hæmoptysis, pain of chest, dyspnœa, nausea and vomiting, hectic fever, perspirations, diarrhœa; as well as the various diseases that complicate phthisis—laryngeal inflammation, catarrh, pneumonia, &c. we see nothing new. Every thing, however, which the author states, appears to us to be on correct principles. The same remark applies to his fourth subdivision—the *treatment of the advanced stage*—which, in truth, consists wholly of attention to the palliation of the more prominent and distressing symptoms. The great object of our treatment in this stage, he properly remarks, should be to soothe and tranquillize both mind and body.

Lastly,—the subject of *regimen* brings to a close the author's remarks on the management of phthisis, and the "treatise" at the same time. His views on this matter are sound, and deserving of attention. We therefore give them in his own words:

"The great difficulty of directing the regimen of persons of a tuberculous constitution depends upon the discrepancy which exists between the wants of the system and the powers of the digestive organs. The former appears to call for a strongly tonic diet; while its employment never fails to aggravate the weak and irritable condition of the latter, and depress still further the powers of the constitution: hence it is evident, that the food which is best adapted to the digestive organs, is that which will ultimately contribute most effectually to the strength of the system. A disregard to this obvious law of the economy has given rise to the great diversity of opinion which still prevails respecting the regimen of tuberculous patients. We have already stated our opinion regarding the diet of children, and alluded to the prevailing error of over-feeding young persons of the strumous constitution. Large joints of the strongest and most exciting kinds of animal food frequently constitute their diet, whether their stomachs are strong or weak, irritable or otherwise; the delicate puny girl of seven years of age has the same dinner as the robust lad of seventeen and both are generally fed upon a kind of meat which is adapted only to persons of adult age and matured strength, who take active exercise the greater part of the day in the open air.

"During the early stage of phthisis the diet ought to be mild, and in cases where there is a tendency to pulmonary congestion it should be strictly antiphlogistic; but the diversity of the prevailing symptoms renders it impossible to lay down any general rule on the subject. We would simply remark that when, from



any cause, it is necessary to reduce the diet, its subsequent increase should be made with great caution and very gradually.

“As phthisis advances, the diet must be regulated according to the circumstances of each case: one person will bear and derive advantage from a diet that would excite fever in another; and, therefore, any general rule that could be laid down on this subject would be weakened by so many exceptions that it would be useless. Too much importance is attached to the food, and too little to the state of the digestive organs; and hence it is most erroneously supposed that the emaciation and wasting of the patient may be checked by an additional quantity and richer quality of food; by which means derangement of the digestive organs is induced along with a new train of symptoms, which tend to complicate the case and add to the distress of the patient.

“Although a mild diet is that which is most generally suited to the advanced stages of phthisis, cases may occur in which it is advisable to adopt a more exciting regimen; and instances are on record where the consumptive patient, after long lingering under a spare diet, has rapidly improved in strength and been apparently cured by a diet of an opposite quality. That this has occurred we do not doubt; but the patient has probably been as much indebted to the mild diet as to that which followed it. The patients who have been cured in this manner have no doubt been persons in whom the tuberculous disease of the lungs was limited, and advancing to a cure before the change of regimen was adopted. In many such cases, however, a change from a mild to a stimulating diet would do mischief, and interfere with the curative process going on in the lungs; indeed the proportion of cases is very small in which it will prove useful, and even then much judgment and discernment will be necessary on the part of the practitioner in deciding on the proper period for its employment. When such a change of diet is made, it should generally be accompanied by an increase of exercise in the open air: Salvadori combined his salt meat and generous wines with exercise on horseback, and promoted perspiration artificially by placing his patients near the fire.

“The cases that are likely to be cured by the stimulating plan of treatment,—by beef steaks and porter,—bear so small a proportion to the many that will be injured by it, that we do not consider it deserving of further notice in this place. Many more patients have been preserved by the early adoption of a milk and vegetable diet with a residence in the country; and there are numerous instances in which this regimen, adopted in the very commencement of tuberculous disease, proves more suitable than any other. The jelly of some of the mosses has been recommended as a nutritious article of diet for the cure of consumption; of these the Iceland moss jelly has been generally preferred: it forms a light form of nourishment, and its bitter qualities render it useful in some states of the stomach. Asses' milk and goats' whey are well-known articles of diet in such cases; but on this part of our subject it is unnecessary to go into detail in this work.”

Such is a critical exposition of the main topics contained in the volume before us. It may seem, that for so small a production we have allotted unusual space. The type and size of the page, however, are such as to comprise perhaps three times as much matter as



is contained in an ordinary octavo page of pica. Although comparatively small in the number of its pages, it is, therefore, in reality, a work of considerable size. That it is likewise a production of merit has, we think, been sufficiently demonstrated. These considerations, added to the professional respectability of the author, which renders every thing emanating from his pen worthy of notice, and the reasons, which induced him to make the article on “tubercular phthisis,” for the “Cyclopedia,” so voluminous, have caused us to dwell so long upon the subject. We do not know, indeed, that we can better terminate this article, than by citing and adopting the very expressions, with which Dr. Clark has concluded his own interesting essay:—

“In bringing this article to a conclusion, we feel that, although we have exceeded the limits which we had originally assigned to it, the subject, in the extended view which we have taken of it, is one of such deep interest—involves so many important considerations—and embraces so wide a range, that we may have omitted some things, and passed lightly over others; but we believe that we shall be found to have attached its due value to every point which is of real consequence. If, in the accomplishment of our object, we have dwelt more particularly on some parts than on others, we have been induced to do so from a full conviction of their paramount importance. Our great aim has been to point out the sources of tuberculous diseases, and to impress upon our medical brethren the necessity of directing their chief attention to the origin and causes of phthisis,—a knowledge of which can alone lead to the means of preventing that disease, and of diminishing the frequency of tuberculous diseases generally.”

R. D.

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ART. XIV. *Fragmens Psychologiques sur la Folie*. Par FRANÇOIS LEURET, Docteur en Médecine. Paris, 1834.

*Psychological fragments on Insanity*. By FRANCIS LEURET, M. D.

WE opened this volume with much interest, and not without some anxiety. The name of M. Leuret has always been associated in our thoughts with untiring and scrutinizing investigation in the physical world; and we felt curious to know how far the talents so well exercised in material pursuits would avail their possessor when applied to ideal objects—how far the inductive habits of our ingenious author would carry him in safety through the ethereal and imaginative fields of mental inquiry. We must say that our hopes have been flatteringly realized; and that, if we make allowance for the usual differences of opinion which are to be expected among men educated under circumstances widely dissimilar, the reader may expect to find,



in the work before us, one of the most interesting and indeed amusing volumes which are permitted to enliven the heaviness of medical study.

The object of M. Leuret, in his present work, is to sketch the mental phenomena of insanity, using or endeavouring to use the same care to observe minute accuracy with which we are now so familiar in the works of various medical writers when they describe facts within the range of physical agencies. This attempt to render tangible, and as it were commensurable the thoughts and feelings of the mind, is supported, too, by *cases*. We do not here mean detailed histories of the pulse, the skin, and the physical condition of the viscera; but narratives of the conduct and apparent mental peculiarities of individuals, illustrated by copious and often amusing extracts from their conversations. These give a life and animation to the volume which eminently distinguish it from most of our medical productions; while at the same time, its logic cannot in general be denied to be legitimate, and it does not seem to fall under any necessary prohibition of the "*musæ severiores*."

Dr. Leuret divides his views under ten heads, giving rise to as many chapters of diversified length, and not intended to conform to any methodical or complete system. Designing his work as a comparison of the facts he has been enabled to collect from observation and books, he has preferred the irregular growth of ideas, which under such circumstances, seems to be the natural course of truth within the human mind. Hence he has entitled his essay "*fragments*," the chain of connexion being no further preserved than was found convenient and useful.

Chapter I. is on incoherence of ideas. From this and the one which follows, we have compiled a larger share of matter than from any other; but we have been led on by the wish to give an example of our author's mode of pursuing the subject, and with this view we shall proceed to insert the abstract we have made.

The natural chain of thoughts and feelings which occur in a healthy mind follow a course guided by certain rules or principles, and generate a corresponding series of external appearances in the human face and gestures by which we are accustomed to judge of them. When perfectly sound and regular in their succession, these actions form a whole of which the parts are consistent. One class of derangements in mental phenomena is characterized by a defect in this regular catenation; and the individuals so suffering are distinguished by our author as "*incoherent*" insane.

At the threshold of this inquiry, we encounter the established authority of LOCKE; who would seem to place all the deranged



within the bounds of the above category. A celebrated dictum of this writer argues that madmen reason justly from ideas badly associated; while idiots are distinguished from them by reasoning very little, or not at all. The definition of insanity here conveyed is defective, from not being sufficiently comprehensive. Insanity, as is well-known, is of various kinds, often depending on the passions; and the idea of Locke, as is justly remarked by Dr. Leuret, is only applicable to monomaniacs.

There exists among the healthy a state of mind depending on a slight degree of incoherence, which throws some light upon the present inquiry. It generally receives the appellations of *imprudence* and *thoughtlessness*. In persons of this character, ideas frequently possess force and precision; but their succession is too rapid. They remain for so short a time within the sphere of attention, that the impression they make is effaced before the individual has had time to judge of their consequences. Links of concatenation are thus lost sight of; and as persons of this quick and irritable turn of mind are too much under the controul of external circumstances, the connexion of their thoughts is frequently and entirely broken by the trifling occurrences which surround them.

Another source of incoherence in healthy minds is the want of that discipline of its habits which we commonly express by the word education. An example of this is given in a piece of writing by an individual whose elementary schooling had been defective. It is a certificate of good conduct furnished to a servant, in which not a single sentence is complete, or makes sense grammatically; while at the same time, it is impossible to mistake the honourable intention of the whole. The phrases are run into one another in such a manner as to make one long continuous sentence from the beginning to the end.

Another example of healthy incoherence is derived from what is so frequently seen in the works of men of genius. Powerful and active minds seize the relations of subjects with so much facility and rapidity that they are apt to overlook the intermediate steps, every one of which, by the possession of ordinary faculties, requires to be separately considered. Their productions, in this manner, often assume a disconnected and disjointed appearance; and are well exemplified by those works of profound mathematicians, in which the details of a chain of reasoning are omitted, and only a few leading points are introduced, leaving it to the more skilful and practised readers to fill up the vacancies.

Dr. Leuret proceeds to illustrate the relations which these instances bear to insanity by a number of curious examples, for which



we have not sufficient space. These seem to point out in a striking manner the connexion between such derangement and the natural states of the mind to which we have just alluded; and to indicate that the mental disorder may be of much less extent, and more within the controul of the will of the patient than we frequently are apt to imagine. He remarks, further, that the insane frequently render the apparent incoherence of their ideas much greater than the reality by voluntary omissions; in some instances, we may suppose, from impatience, and in others from a desire of concealment.

In contrast with the preceding chapter, that which follows is on the irregular coherence of ideas, producing delirious conceptions and a fixedness of false impressions. Dr. Leuret here occupies some space in proving that there is no such thing to be found as an idea essentially insane. All insanity in ideas appears to depend upon their morbid association, their want of association, their presentation under improper circumstances, as by hallucination, &c. &c. This subject leads him into the inquiry, so much canvassed out of the profession, of the distinction between insanity and simple error. But the impression will be more striking if we let our author speak for himself. He found opinions among philosophers and in common life equal in absurdity to the wildest which he could derive from the tenants of the Salpêtrière.

“A woman who kept chairs for hire in one of the parishes of Paris, and who came under the care of M. Esquirol, insisted on being called Holy Mother Church; she said she had bishops in her stomach, holding a council there.

“Thomas Willis, the same, by the way, who wrote on insanity, says that the animal spirits are in perpetual agitation, and that they sometimes flow so violently to the brain as to produce effects similar to those of gunpowder.

“Descartes considered it as an established fact, that the pineal gland is a mirror, in which the forms of external bodies are reflected.

“According to St. Gregory, a nun, in eating some lettuce, swallowed the devil with the lettuce, because she had not made the sign of the cross.

“Is one of these assertions better proved than another? They are all equal in the eye of reason; but in place of consulting reason let us hear the opinions which they would probably entertain of each other.

“Willis would perhaps condemn the opinion of Descartes and that of St. Gregory. He certainly would reject that of the woman.

“Descartes would perhaps admit that of Willis and that of St. Gregory. He certainly would reject that of the woman.

“St Gregory would perhaps unite in the opinions expressed by Descartes and Willis. He would certainly reject that of the woman.

“The woman would not perhaps understand what her judges said; probably she would take them at their words, and admire the profundity of their learning; yet as regarded herself she would think herself the only competent judge, and consent to no condemnation.

“Why is it that they all condemn her? We will reply. She does not possess



the art of supporting her false conceptions by *proofs*; she is incapable of arranging arguments to demonstrate what she advances; she knows not how to combine analogies and accumulate quotations; she is not endowed with the talent of deceiving herself and others by processes of reasoning. With her the false conception stands bare; every one perceives its whimsical character; with the learned, on the other hand, it is dressed up, coloured, and loaded with tinsel, and its decorations give it, at least for a time, the appearance of truth."

"—— Is it then so uncommon an occurrence for things as impossible as these to be widely diffused and publicly taught, for whole nations to give them implicit faith, and continue to do so for a long series of ages? Do we not still find, among modern nations, without a single exception, traditions generally received, which, when examined by a mind free from all subjection to opinions, respectable merely from their antiquity, would be justly placed in the same category with the delirious idea of this woman? Whether it be owing to the confined range of the human understanding, or to a want of accuracy in its operations, or whether it rather arise from indolence, we receive almost all we learn without examination. If we except the mathematical sciences, which contain an element of certainty that enables us to estimate the value of what they teach, human knowledge is composed of facts, the truth of which is taken for granted rather than proved, and of theories which we accept ready made in preference to incurring the trouble of analyzing them and examining the deductions upon which they profess to be founded. And when it occurs to us, amid our inquiries, to investigate the evidence of these systems, surprised at the disenchantment we incur, at the fall we experience after having deemed ourselves at such an elevation, and at the labour necessary to realize a well founded science, we recoil from the task, and return to the ancient routine which we find so convenient and agreeable."

Error alone, then, according to Dr. L. is altogether insufficient as a means of discriminating insanity. To the erroneous character of the idea must be added, fixedness and an irregular or abnormous\* cohesion. The lunatic who is the subject of these qualities is distinguished by the term an "*arranger*." He falls of course under the general head of monomaniacs, as indeed do all the cases described in this volume, with the exception of the chapter just completed. The class monomaniacs also includes those who have visions, those who are insane from pride, the hypochondriac, &c. &c.

Our author here proceeds to illustrate this subject by a series of cases, the analysis of which will not come within the bounds of our essay. We will proceed to sketch an outline of the distribution of the work as rapidly as we are permitted by those temptations to diverge, which its interesting pages continually present.

Abnormous cohesion of ideas is divisible into three classes, giving rise to as many sections of the present chapter. The first of these relates to *mental* things. Under this our author includes imaginary

\* Our spelling of this ancient word may perhaps be questioned. Vide Johnson's Dictionary.



conspiracies, persecutions, &c. of which he inserts several curious examples. His first case, that of the military officer at Charenton, appears to us to exhibit rather a morbid excitement of anger and pride than a morbid association of ideas. He apologizes for the similarity which his mental arrangers bear to the *manufacturers of systems* in science; rather an unfortunate resemblance certainly; but we will add that conspiracies and persecutions equally imaginary may occasionally be met with in common life. Section 2 relates to arrangers of matters which are objects of *sensation*. This process takes place compatibly with health, when passions, which have the effect of directing our attention forcibly to an object, deprive us of the freedom of thought necessary to estimate the real value of our sensations. To him who is frightened with darkness, the void is peopled with giants and phantoms; to the criminal every one appears an accuser; to the exile every thing recalls the memory of his absent country, and to the lover every thing speaks of love. Among the insane cases we are somewhat amused to find one from America. It is communicated by M. DE TOCQUEVILLE; and is that of a negro at Baltimore, who fancied that a noted slave trader was continually employed in following him and tearing off portions of his flesh. How much of this may have arisen from the patient having heard the figurative language in which slave dealers are denominated traders in human flesh? We well recollect a poor fellow in a slight delirium, who, apparently in consequence of a confused recollection of the inquiry whether "his bowels had been opened," entertained the consulting physician with a piteous detail of our enormities in forcibly removing his intestines from his body, and washing them in a basin. Dr. L. gives us several amusing stories of demonomaniacs, and a catalogue, extracted from another work, of epidemic manias which had at different epochs prevailed among the population of France. The distinction between this species of morbid association and real hallucination, is, according to M. ESQUIROL, cited by our author, that the present class erroneously connect and consequently misunderstand, sounds and other sensations which have a real existence; while persons in hallucination imagine that which has no existence at all. The one party hear reproaches in the wind and the rustling of the leaves; the other in the midst of the most profound silence. Section 3 relates to cases of erroneous association with regard to the patient's *own individuality*. This includes those who imagine their limbs to be made of glass, &c. as also that more formidable class, recorded in ancient times as having imagined themselves converted into wolves, and became murderers and cannibals in consequence. Besides these lycanthropi of history, he cites a horrible case of murder and cannibalism from



GEORGET, committed in 1823; and a case of vampyre appetite from BERTHOLLET. At the end of this chapter is a discussion of the opinion expressed by Professor BROUSSAIS, that the general palsy of the insane described by M. CALMEIL and others is the natural termination of insanity. M. LEURET decides in the negative. The proportion of paralytic, among a given number of insane, varies excessively, and is frequently so small as to render the opinion alluded to altogether improbable.

Chapter III. relates to hallucinations; and is classified according to the senses and their combinations, under seven heads. Hallucinations of the taste have given rise to imaginary feasts at witch sabbaths, &c. &c. Among those of the smell is the idea of a lunatic that vast numbers of persons were murdered in vaults under the Salpêtrière, and that he could not only distinctly hear their cries, but smell a dreadful odour arising from the decaying corpses. Visions, in all their solemn array of prophets and saints, and the incubus, including the succuba, occupy two chapters more. It seems to us, independently of religious considerations, of which we have shortly to speak, that these divisions might have come under the head of hallucinations.

Chapter VI. however, is clearly distinguished, and treats of *passive inspirations*. We would here submit that we cannot comprehend how inspirations, as regards man, can be any other than passive. By the very meaning of the word, it implies that he is influenced by an extraneous agency; and how can his predicament be any other than passive? In active inspiration, according to Dr. Leuret, to whom we return, the favoured or afflicted individual is elevated above himself; but he still retains the continuity of his existence, the personality of his thoughts, and the responsibility of his actions. In passive inspiration, on the contrary, he is partially or entirely placed under the controul of another and an immaterial agent—he feels that the thoughts and words presented to him are those of a higher power, and in many instances is forced to obey commands issuing from a similar source. In this and the chapter on visions we feel obliged to say that Dr. Leuret has followed a course which we regret. Difference in religion, or the belief in it of one individual, and the disbelief or doubt of another, ought certainly not to retard the progress of science, or to prevent any inquirer from observing and recording facts, and drawing all reasonable inferences, by the comparison and discussion of them. But why endanger or at least circumscribe the utility of a body of philosophy by needlessly placing it in collision with the most solemn beliefs and dearest hopes of the great majority of the civilized world? Insanity



has examples enough in modern times and profane history to render it quite unnecessary to bring in question the pages of the prophets and evangelists. M. Leuret ought also to concede weight to a remark which we not unfrequently hear from the pupils and admirers of modern French pathology, viz. that modern cases are more useful than ancient ones, because they are observed with the improved lights of science; and he could have easily added more to the mass of his facts by spending the same hours in the yards of Charenton or the Salpêtrière. We hasten to our conclusion, however, from a want of time and space; and though abundantly willing to quit the branch of the subject of which we have just been speaking, we sincerely regret the want of power to dwell at more length on his remaining chapters.

Chapter VII. is on the monomania of pride; and this begins the general division, delirium of the passions; Chapter VIII. on ascetic insanity; IX. on hypochondriasis, and X. and last on insanity from the terror of damnation. Under the head of pride, is recorded the case of a young man who imagined himself to be the son of the Emperor Napoleon, and at a subsequent period, of Murat; and who would not speak to his physician without prefixing the particle of nobility to his name, calling him M. De Leuret. He was cured under the attendance of our author, and with the advice of M. Esquirol, by mental treatment exclusively. Under the head of ascetic insanity are comprised the mystics, who attained a variety of excited conditions of the nervous system by the severity of their discipline, their abstinence and the prolongation of their prayers. These conditions M. Leuret identifies with hysteric, cataleptic and other familiar states. We wish we had space for the narrative of Therese, the dealer in slippers. The name hypochondriasis is attributed to two distinct affections, the one situated, as its name imports, in the hypochondrium, and principally in the stomach and duodenum, only affecting the mind in a secondary manner, and with uncertain frequency;—the other a disease of the brain. It is easy to distinguish the symptoms of the two classes. Our author divides cerebral hypochondriasis under the heads of cases produced by a physical cause, cases produced by a gradual decline in the mental faculties, and cases occurring without any prior affection of the mind or body. Those who are familiar with the writings of GEORGET will perceive how far Dr. L. here lays claim to originality.

The title of the last chapter explains itself. The anecdotes related as illustrations are curious and amusing; but do not seem to us to form themselves into a system, or induce any general conclusion.

B. H. C.



ART. XV. *Die neuesten Entdeckungen, Erfahrungen und Ansichten in der Practischen Heilkunde, dargestellt und beurtheilt.* Von D. GEORG AUGUST RICHTER, Ordentlichem Lehrer der Medicin auf der Universität zu Königsberg. Erster Band. Zweite, sehr vermehrte und verbesserte Auflage. 8vo. Berlin, 1828.

*A Critical Exposition of the most recent Discoveries, Observations, and Experience in Practical Medicine.* By G. A. RICHTER, M. D. Professor in the University of Kœnigsberg. Vol. I. Second edition, greatly improved and augmented.

AT no period in the history of our profession was a knowledge of the labours of contemporaneous physicians of so much importance to the medical practitioner, as it is in the age in which we live. The unremitting industry of an immense number of observers has, of late years, enriched almost every department of medical science with a mass of new facts; facts, which in many instances have tended materially to correct our views of the organization and functions of the animal economy, and of the diseases to which it is subject. Even if we are obliged to admit, that therapeutics has not a right to claim acquisitions as great and as numerous as those of which physiology and pathology so justly boast; yet it is certain that some real improvements have been effected in the treatment of disease, and that even these are sufficient to confer upon the physician of the present day, a decided superiority over the practitioner of the last age. The truth of this assertion is so obvious, that it is beginning to be duly appreciated. Formerly, the physicians of this country were usually satisfied with what they had learnt at college, or what they could acquire from the books which they had purchased during their years of study; and they experienced no material inconvenience from the course which they pursued; but the times have changed, and the great body of the profession are now thoroughly convinced of the importance of obtaining the latest and best information on every subject connected with their art. Experience has taught them, that if they neglect to do so, they will appear inferior to their younger competitors. If there are among us some individuals who are disposed to doubt, or perhaps even to oppose the idea of the superiority of modern science, they certainly constitute only a small minority, and we have no reason to suffer ourselves to be influenced by their arguments. History teaches, that there never was a time when new discoveries and new views had not to struggle with the opposition of those, who fancied that science had already reached its highest degree of excellence, but that in spite of their exertion, truth gained the victory, and the knowledge of man continued steadily to advance.



But if it is acknowledged that it is truly important to be conversant with the new facts which are daily promulgated, it must also be admitted that the acquisition of such knowledge is attended by great difficulties. He who is desirous to keep pace with the progress of his profession, has an arduous task to perform. The number of medical writings, and particularly of periodical works, has recently increased to an extent, which renders it almost impossible even for the industrious to peruse them all. The medical knowledge of former times may, perhaps, be acquired from systematic treatises, but few works of this character contain any considerable number of the observations peculiar to our own age. These we meet with dispersed over a vast mass of writings. Those who happen to reside in one of our principal cities, and enjoy the use of extensive libraries, may, perhaps, be able to study the most important of them; but the great body of our medical men, scattered over the country, and engaged in the exercise of an arduous profession, seldom have either leisure or opportunities for such a study.

When these circumstances are taken into consideration, we must all be sensible how largely we are indebted to him, who has presented to us, in a few volumes, a condensed and well-digested account of the principal observations and opinions which have been given to the medical world within the last twenty or thirty years; and such has been the object of Dr. Richter in the work, the title of which is placed at the head of this review.

Nobody could be better qualified for the execution of such a design than a German scholar. This is not the place to inquire into the necessity or expediency of the rigid examinations to which candidates for degrees are subjected in Germany, or into the propriety or utility of many other regulations belonging to the medical police of that country. Suffice it to say, that the system of instruction adopted in the German Universities, if it does not ensure better practitioners, is unquestionably calculated to form more learned men; and it is precisely learning which is chiefly requisite for the successful execution of a work like the present. It is a very difficult thing to determine the proper medium between study and observation. Both are essential, and neither should be neglected at the expense of the other. We are not disposed to deny, that it may perhaps be a fault of many German literati, that they attach almost exclusive importance to the former, and culpably neglect to attend to the latter; but at the same time, we are strongly apprehensive, that some of the neighbouring nations, and particularly the French, are guilty of an error of the



opposite kind. It may indeed be stated as a general fact, that if more discoveries are made in France and England than in Germany, it is nevertheless from German books that we can most easily derive a knowledge of these discoveries.

The work before us is offered to the public in the form of a supplement to a complete treatise on the practice of medicine, compiled by the author from the papers of his father, the late Dr. AUGUSTUS GOTTLIEB RICHTER. This celebrated man is known to the English public chiefly as a surgeon, through the medium principally of his *Elements of Surgery*, and his *Medico-Chirurgical Observations*. It may, therefore, not be known to many of our readers, that by the German nation, he is considered also one of their best physicians. Indeed, during the last eight years of his life, he no longer taught surgery, but confined himself in his lectures exclusively to the practice of physic. These lectures were always deemed peculiarly excellent, and were attended by an unusually numerous class of students, so that, as we are informed in the preface, there is scarcely a city in Germany, in which several of the principal physicians were not pupils of Richter. He did not, however, publish any work upon this subject, unless we consider as such a few detached essays in his *Medico-Chirurgical Observations*; but after his death, which took place in the year 1812, his son, Dr. George Augustus Richter, finding that the notes from which the above-mentioned lectures had been delivered contained ample materials for a systematic treatise, undertook the task of arranging them. Thus originated Richter's *Special Therapeutics*, published in eight large octavo volumes, and one volume of index. This work seems to have been very favourably received by the public, inasmuch as it has, notwithstanding its bulk, gone through three large editions since 1813, when the first volume was issued from the press. It certainly contains a very large mass of useful information on every thing connected with the treatment of diseases, and is probably not inferior, in practical utility, to any other similar production of its time. Yet we have no doubt, that there may have been a numerous class of medical men, who were not very well satisfied with many of the practical precepts inculcated in its pages. They might for example, complain that the doctrines upon which the practical deductions are founded are in many instances those of time gone by, and no longer suited to the present advanced state of science. Without altogether denying the justice of this remark, we are nevertheless willing to maintain, that with certain allowances, this treatise continues to be one of very great value, and we believe that there are very few physicians who would not find its perusal highly interesting and instruc-



tive. As it is not our object to review the main work, we cannot at present enter at length into a consideration of its merits.

But one more remark on this part of the subject, because it will enable the reader to form a better idea of the author of the supplement. Richter was perhaps too much attached to the doctrines of STOLL, and was, as is well-known, severely censured by many of his cotemporaries for this inclination of his mind. Now, although his son endeavours, (in the preface,) to defend him, by showing that his partiality in this respect was by no means as great as was generally supposed; yet it seems to us that the consequences of these doctrines appear pretty clearly in the pages of the work just referred to. Our author, according to his own statement, prosecuted his medical studies under the eyes of his father, and in fact derived his earliest information immediately from him. It is, therefore, not difficult to discover how he may have imbibed a fondness for similar views. The facilities which a parent is able to afford his children are certainly great and obvious; but it may be doubted, whether upon the whole it be to the advantage of a man, to have a father who is great in the same science which he cultivates. Every one of course will be ready to excuse him, when placed in such relations, if he should occasionally cling too tenaciously to favourite opinions. An influence, not in every respect salutary, seems to have been thus exercised upon the youthful mind of our author, and this must be borne in mind in judging of many of the criticisms contained in the supplement. We do not wish to say that he holds throughout the unchanged opinions of his father, for this would be impossible in the case of a man who has endeavoured to advance with his science; but it is very clear that he has not been able entirely to efface from his mind impressions received years ago, impressions, which are nevertheless not at all in accordance with the spirit of modern medicine. But to proceed to the principal object of our inquiry.

When the publication of Richter's *Special Therapeutics* was completed, our author, with a view of rendering the work as complete a system of practical medicine as possible, undertook to furnish, in the form of supplementary volumes, an account of the principal acquisitions which the healing art has made since the period of his father's death. Of this supplement two volumes have appeared. The first embraces general outlines of the principal new systems of medicine, which have of late years attracted notice; some new views on the infantile organism; and an account of the most important new remedies which have been added to the *materia medica* within this period. In the second volume we are presented with some general remarks on the cultivation of pathological anatomy, since the commencement of



the present century. Next follows observations on fever in general, on nervous fever in particular, and on delirium tremens. In the third place we have an account of the recent researches in auscultation and percussion; and the remainder of the volume, in fact by far the greater part of it—(576 pages)—is occupied with the late discoveries relative to the diseases of the chest. Several more volumes will probably be required to complete the plan, by delivering the history of such affections as are not included in the second. In the following observations we shall confine ourselves to the first volume, our limits not permitting us to take any further notice of the second.

It would be entirely impossible to attempt a regular analytical review of a work like the one before us. In order to do this it would almost be necessary to translate the whole from the original, inasmuch as it is itself an analysis of a very large number of other works, and is written in a remarkably concise and almost aphoristic style. The best way to give to our readers an idea of the manner in which the different subjects are treated, will be to present to them, in as condensed a form as possible, the principal contents of one chapter. We shall then merely add a few general remarks on the remainder of the work, particularly on the delineations of the latest systems of medicine, and a list of the principal remedies which are treated of. The chapter which we have selected for the first purpose is that on croton oil, and we have chosen this, not because it is superior to the others, for we can discover no particular difference in this respect between it and any of the rest, but simply because it is one of the shortest, and will therefore not occupy much of our space; while, at the same time, it is quite sufficient to show the manner in which all are executed.

The seeds of the croton tiglium from which this oil is obtained, were formerly used as cathartics, but fell into neglect on account of the vomiting and other drastic effects which frequently followed their exhibition. Many years ago, HAHNEMANN proposed the expressed oil mixed with oil of almonds, in small doses, as a substitute for castor oil, which it appears is sold at a very high price in Germany, and is frequently obtained in an adulterated state in that country. His proposal however attracted no attention. More recently several British physicians have recommended this oil, and prescribed it with great advantage. SCHORT first brought it from Madras to England, obtained a patent for its sale, and vended it in small vials, each containing one drachm. It is a very powerful purgative, one-half of a drop sometimes operating repeatedly, and without pain or inconvenience. If however other cathartics have been ineffectually tried, as much as two drops may be administered, and then its action invariably follows. For the most part it quickly produces a rum-



bling sensation in the bowels, which continues during the whole of its operation; and in less than thirty minutes copious watery evacuations take place. It rarely produces griping, and still less frequently nausea, and it is said to be the promptest and safest of all the purgative medicines with which we are acquainted. One of its greatest advantages is the minuteness of the dose. It is applicable to all cases in which a speedy action on the bowels is demanded. Thus it may be prescribed in obstinate obstructions of the liver, in dropsy, jaundice, bilious fevers, in excessive plethora, in cases of an inordinate disposition to the secretion of fat, in determination of blood to the head, and in such cases of apoplectic coma as require purgation. By rubbing one or two drops of the oil upon the tongue, even the tic douloureux is alleged to have been cured, or at least mitigated. It may be conveniently exhibited in the form of pills, or by rubbing it with sugar and diffusing it in peppermint-water. Several Italian practitioners have likewise extolled the safe and mild operation of this remedy. According to experiments instituted at Berlin, one drop is capable of bringing away from twelve to eighteen stools, and only the eighth part of a drop can be prescribed with safety, which small quantity is quite sufficient to produce a gentle laxative effect. Two grain pills, made of thirty grains of the watery extract of jalap and three drops of croton oil were successfully employed in obstinate obstructions of the abdominal viscera, unattended by inflammation, particularly in ascites. The author himself has prescribed the croton oil in a number of cases, and extols it principally as a remedy in dropsy. He directed, according to circumstances, two, four or six drops to be rubbed with two drachms of sugar, the whole to be divided into eight parts, and one of these to be taken every two or three hours, until the desired effect was produced. In this way he succeeded in two cases in very rapidly evacuating the water of an ascites and anasarca. He regards this oil as one of the very best hydragogues in our profession, but derives its utility in dropsical effusions not only from the copious serous evacuations which it produces, but also from its simultaneous action on the kidneys and skin, the secretion of both of which organs it greatly promotes. He however conceives that in those cases of dropsy which partake of the inflammatory character, it should not be employed. Yet the English physicians assert that they have prescribed it with advantage in bilious fevers and abdominal inflammations. In cases of children SCHNEIDER has obtained from frictions with the diluted oil the same results which follow its internal administration. These frictions are instituted on the surface of the abdomen, and are parti-



cularly eligible for those children to whom medicines cannot easily be given by the mouth. Sometimes worms may be expelled in this way. The same mode of application will succeed in the adult, if the quantity be increased, and it may be usually resorted to in certain cases of constipation. TAVERNIER was not successful in procuring purgation in this way, but asserts that a pustular eruption is thus produced, which extends further than the application of the oil. He therefore proposes this method for the purpose of exciting a cutaneous irritation. POCINOTTI employed croton oil for the expulsion of tape-worm. After a preparatory diet of three days, he administered one drop in a cup of broth, and repeated the same dose on the following day. The symptoms however returned after the expiration of a month, so that it became necessary to resume the use of the remedy. It was now given on alternate days, and effected a perfect cure. One drop of croton oil mixed with one ounce of poppy oil affords a preparation very similar to castor oil, and may be given in the same doses. It has been tried in a number of cases in the Policlinic Institute at Berlin. The activity of croton oil is said to be impaired by mixture with the etherial oils. It is also given in the form of mixture or in lozenges. SEILER prepares the latter, by adding sugar and a little gum Arabic, each lozenge containing a quarter of a grain of the oil. One of these may be taken every two hours until the desired effect is produced. Both are very eligible modes of exhibition, because in powder or mixture it is apt to excite a very disagreeable sensation in the throat. NIMO mixed twelve drops of the oil and half an ounce of alcohol with syrup, mucilage and water, administered the whole at one dose, and ordered milk to be drank after it. This potion operated very copiously, but produced no drastic effects. CAVENTOU prepared a soap of croton oil, by triturating two parts of the oil with one of soap-boiled ley. This was employed by BALLY in two grain doses, either dissolved in water, or made up into pills. The effect did not differ from that of the simple oil. Another soap, made by combining the oil with soda, is proposed by MORSON of London. The dose is from one to three grains. These preparations afford this advantage, that the dose can be very accurately fixed. A tincture of the seeds of the croton tiglium is recommended by POPE. It is made by digesting for six days, two ounces of the seeds, carefully peeled, in one ounce of alcohol, and then filtering. The smallest dose for an adult is twenty drops. This tincture is represented as greatly preferable to the oil, because the outer covering of the seeds, which is said to contain acrid and drastic ingredients, is previously removed. We are told



that it acts much more gently, and yet with sufficient certainty and effect. Quite recently CONWELL has minutely examined the history, chemical relations, medical properties and modes of exhibition of the croton oil. According to his own statement, he was the first who introduced the article into France and England. He places its superiority not only in its very prompt and certain action, but also in the circumstance that it affects in the same manner every portion of the intestinal canal, while other purgatives are confined in their operation to a particular part of the bowels. This being the case, he thinks himself justified in maintaining, that this substance is absorbed into the circulation, and does not begin to produce its characteristic effects, before it has been in this manner conveyed to the mucous surface of the intestines. It also seems to him to operate through the intervention of the nervous system, inasmuch as the secretions are augmented and the peristaltic motion of the bowels increased by its employment. These opinions derive further support from the observations which have been made on other modes of application. Thus it is capable of exciting purgation when rubbed upon the abdomen, applied to the tongue, or injected into the veins, and even by mere long-continued smelling. He considers it the most valuable of the hydragogue cathartics employed in dropsy, and thinks it well adapted to a variety of other cases, particularly to trismus and tetanus, hydrophobia, mania, apoplexy, and in general to all those cases, in which the nervous system has lost its influence over the movements of deglutition, when cathartics are indicated in them. It may moreover be easily given to children, when they refuse to take more bulky articles. Among the different modes of exhibition he prefers that in which it is given in alcoholic solution, because the dose can be most accurately measured in this way. BRANDES has discovered in the seeds of the croton tiglium a new alkaloid and an acid, the latter of which produces terrible effects upon the system, and is the principle on which their purgative quality probably depends.

This may serve as a specimen of the manner in which Dr. Richter gives us an account of the researches of our cotemporaries relative to the new remedies which have lately been introduced into the materia medica. By comparison with the original, it will be found to embrace the most important observations contained in the chapter referred to. Others, possessing less interest, we have omitted. These remarks on croton oil are accompanied by numerous references to the works from which the author has compiled. We have, however, purposely not introduced them in this place. Many readers would probably be better pleased, if Richter had brought together, into a regular scien-



tific description, all the facts relating to a given article, which he could gather from the various works at his disposal; but it was not his design to write a systematic treatise. The work is to be regarded merely as a collection of single statements, or of analyses of different works, supplementary to another, and intended to complete what is defective in this. This being the case, we cannot look for a scientific arrangement; nor can we expect that repetition should always be avoided. The method here adopted has, however, obvious advantages; for we are thus not confined to a knowledge of the opinions of one author, but have an opportunity to compare the statements of a great number of writers.

We shall now proceed to take a very rapid general view of the different parts of the work. It opens with a sketch of the principal attempts which have been made since the commencement of the present century to establish complete systems of medicine. Of these there are three which will engage the attention of the inquirer; the system of BROUSSAIS, or the physiological doctrine, in France; that of RASORI and his followers, or the doctrine of contra-stimulus, in Italy; and the system of HAHNEMANN, known by the appellation of homœopathy, and prevalent chiefly in Germany. Each of these is represented by its inventor as the only rational method which has ever been proposed; each of them is said to afford the only available precepts; and to be almost infallible at the bed-side of the sick; and yet there could not be imagined any three things more discrepant than the practice of these sects. In the same disease the first resorts to copious and repeated abstractions of blood; the second administers tartarized antimony in almost incredible doses, and the third is willing to rely upon the octillionth part of a drop of the juice of belladonna; and yet a prompt and perfect cure ensues.

To his observations on these recent systems of medicine, Richter premises a few remarks upon the application of the philosophy of Schelling to our science. Although there are probably very few among our readers who have the slightest idea of the nature of this philosophy, inasmuch as it is, as far as we know, entirely confined to Germany; yet we do not think it expedient to consume any time in attempting to present a sketch of it, because it really appears to us to be worse than useless. It was always the practice of physicians to introduce into their science the philosophy of the schools. No system of consequence was ever invented, of which such an application was not made. Now we will not go so far as to maintain, that medicine never derived the least advantage from attempts of this kind. The philosophy of DESCARTES was undoubtedly instrumental in the



propagation of HARVEY's great discovery, and was one of the causes which inflicted the last and fatal blow on Galenism; and that of LEIBNITZ was the basis upon which were built the improved views of FREDERICK HOFFMAN: but the present is not the time for such efforts. They are singularly at variance with the spirit of the age, and the profession in France, England, and this country, is fully convinced that the science can never be regenerated in this way. It is greatly to be lamented, that there are still so many among our German brethren who are not sensible of this, and who continue to waste their precious time in so fruitless an enterprise. By this system in particular, the easiest things are involved in difficulties, and gratuitous assumptions without end are made to supply the place of observation and experience. But what to us is most surprising is the fact, that so eminently practical a man as our author, really and in serious earnest attaches considerable importance to these doctrines, and even goes so far as to assert that the superiority of German medical theory, which he boldly assumes, is mainly dependent upon their application; and when he further informs us, that even his illustrious father was conscious of advantages to be derived from them, we are almost at a loss how to interpret his expressions. In fact this part of the work, we are confident, would be interesting to very few of our readers, and we are almost tempted to say, would scarcely be intelligible to the majority of them. The influence, however, which these notions have acquired over the mind of our author, must be borne in mind in judging of several criticisms which occur in this volume.

Next follows an account of the celebrated doctrines of M. BROUSSAIS. Of all the systems which we shall consider, this has obtained the largest number of supporters, and has exercised the most powerful influence upon practical medicine; an influence, indeed, which is not confined to the limited circle of its devoted advocates, but which is obvious in the practice of all classes of physicians in France, and has extended, though in a less degree, even to several of the neighbouring countries. Thus it is stated, though the account is probably somewhat exaggerated, that in consequence of the diffusion of the therapeutical precepts which follow from these doctrines, the employment of leeches has of late years become so general at Paris, that from three to six millions of these animals are annually required for the use of the hospitals in that capital, and that in the Hôtel-Dieu alone, no less than four hundred are daily applied in every ward. The delineation of the principles of physiological medicine, as contained in the work before us, is clear and satisfactory, and is accom-



panied by a list of the principal works which have been written upon the subject, both by adherents and adversaries. It cannot of course be expected that Richter would be willing to give his assent to every thing which is taught by this school. He has accordingly annexed a number of critical observations, in which he endeavours to point out the defects of the system. Many of these are highly deserving of our approbation, and might be read with profit by some of our American physicians; yet the peculiar turn of the author's mind, his partiality for certain antiquated opinions, and perhaps also his leaning towards the philosophy of Schelling, are discernible in several of them. To us one of his propositions appears a little singular. He asserts that peritonitis is unattended by pain, because the peritoneum is very sparingly supplied with nerves. We do not know whether such an opinion generally prevails in Germany, or whether it is peculiar to himself. In this country, however, peritonitis is considered a painful, and in the majority of cases a very painful affection. A few solitary instances, such as are reported by ANDRAL, in which no real pain was felt during life, and yet appearances of inflammation were detected after death, are not calculated as yet to subvert the general rule. The success which the Broussain practice has hitherto met with, is attributed by Richter to the prevalent inflammatory constitution, and it will not, in his opinion, be able to maintain itself after this has ceased to exist.

The Italian doctrine of contra-stimulus occupies the third division of this part of the work. We do not hesitate to say that the view here presented is by far the best which we have hitherto met with, being in every respect much more complete and satisfactory than the sketches published a few years ago in the British and American journals. It is not a very easy matter to give an accurate account of this system, for RASORI, its founder, has never communicated his ideas to the public in a systematic form, and BRERA, BORDA, and TOMMASINI, who are among his principal followers, are sometimes at variance with each other on points of vital importance. Our author, however, has succeeded in delivering, in a very interesting manner, a general outline of these doctrines, and has as usual added the titles of the most important works which have appeared in relation to them. He very clearly points out, in the course of his essay, the numerous discrepancies and contradictions into which their advocates have fallen, and demonstrates the untenable character of the fundamental position upon which they are founded. At the same time he is ready to admit, that useful inferences may be drawn from the peculiar manner in which these physicians administered their remedies.



It must undoubtedly be considered as proved by them, that the stomach is capable of bearing much larger doses of several articles, than we have hitherto been accustomed to believe; and although, upon the whole, their example can hardly be deemed worthy of imitation, yet cases may occur in which the practitioner might profit by a knowledge of the facts disclosed by them. As a specimen of the uncertainty which still prevails, and which doubtless will always continue to prevail, in the details of the pathology and therapeutics of this system, we will only mention the circumstance, that although the two diatheses which are assumed, are diametrically opposite in their character, it cannot in many instances be determined to which of the two a given affection belongs. Thus the same disease is attributed by one author to the diathesis of stimulus, and by another to the diathesis of contra-stimulus. The same is the case with the remedies. One writer places a given article among the stimuli, and another among the contra-stimuli; nay the same drug has in several instances already been repeatedly transferred from one division to the other.

The last general system is the homœopathic, the principles of which are fully explained, being preceded by a very interesting historical sketch of its rise and progress. This is a subject which has attracted but little attention in the United States, but it is not unreasonable to suppose, that the time may come, when our physicians will be called upon to refute a set of opinions, eminently calculated to captivate large portions of the community. Those of our readers who are desirous to make themselves acquainted with this singular concatenation of misconstrued facts, may consult one of the pamphlets which have lately been published both in England and this country by the disciples of Hahnemann, and an abundance of arguments subversive of the entire fabric, will readily suggest themselves to their minds.

After this review of the principal new systems which now divide so large a portion of the medical world, follows a dissertation on the infantile organism, and the principles which should guide the physician in the treatment of the diseases of children. It fills thirty-eight pages, and contains many interesting statements and useful reflections.

The remainder of the volume, (from page 160 to 646,) is occupied with an account of the numerous new remedies which have of late years come into use, and of several others, which, though formerly much employed, had fallen into neglect, but have recently again been introduced to the notice of the profession. In a practical point



of view this is the most important part of the whole, and it has evidently been compiled with great care. It must be observed, that the object of the work is entirely practical. Hence the botanical, pharmacological, and chemical relations of the different articles are but slightly noticed, while their therapeutical effects are fully and circumstantially detailed. We have already given a specimen of the manner in which this part of the work is executed, and shall now merely subjoin a list of the most important medicines which are passed in view. They are radix rhatany, arrow-root, piper cubeba, colchicum autumnale, secale cornutum, lactucarium, iodine, croton oil, pyroligneous acid, prussic acid, the salts of cinchona, gold, the carbonate of iron, the nitro-muriatic bath, acupuncture, moxa. Besides these, there is a great variety of other substances from all the three kingdoms of nature, which being of less importance, we do not enumerate.

In conclusion, it remains for us to state in general terms, what impression the reading of this first volume of Richter's work has left upon our mind; and here we unhesitatingly assert, that we have seen very few medical works from the perusal of which we have derived so much instruction. It would be difficult to point out a single subject considered in its pages, on which we do not receive ample and satisfactory information. The only blemishes of any consequence which we can discover, are some of the theoretical opinions implied in several of the critical remarks which occur in different parts of the volume. These cannot, however, in any considerable degree, affect the utility of the whole, and if we have dwelt upon them in the course of this review, it was only because we deemed it our duty to notice also those things from which we are obliged to dissent. The work, nevertheless, remains one of high value, and deserves to be attentively studied by those of our physicians who are conversant with the German language. Should our author in a few instances have overlooked the contributions of American writers, this will not create surprise, when we recollect that he resides in a remote city of the Prussian dominions, where he has access to no libraries, and is therefore confined to his own collection of books.

E. R.



## BIBLIOGRAPHICAL NOTICES.

XVI. *Application of the Physiological Doctrine to Surgery.* By L. J. BEGIN, M. D. Ex-surgeon Aid-major to the Military Hospital of Instruction of Metz, &c. &c. Translated from the French. By WILLIAM SIMS REYNOLDS, M. D. Charleston, 1835. pp. 227. 8vo.

We are gratified to see a work of this kind in our own language. It is sufficient to observe the many errors daily committed in the practice of surgery, to be convinced how deficient many of the profession are, in a knowledge of the recent improvements and most approved principles of this important branch of the healing art. Most of the elementary works on surgery to be found in the hands of students, contain errors that have been completely refuted, and advocate principles not in accordance with the views of some of the ablest pathologists of the present day. The author of the work before us has pointed out some of these errors, and has given an able exposition of what we conceive to be the correct principles of surgery. The works of M. Broussais, and those of the physicians of the physiological school, have given to the science a new aspect, and have added so much to its improvement, that we cannot regard him as an enlightened surgeon, who has not derived some benefit from their labours.

The work is divided into a preliminary discourse and nine chapters. The author, in his preliminary discourse, notices the connexion of medicine with surgery, and the difference between the surgeon and mere operator. The first five chapters are devoted to the consideration of acute lesions; the remaining four to chronic affections. The acute lesions are examined less in relation to their etiology, and the mechanical operations which they require, than with respect to the local and general affections of which they are the source, the influence which they exert upon the principal viscera, and the medicinal remedies, internal and external, by which they may be removed. With regard to chronic affections, an endeavour has been made to trace them back as far as the vital lesion which excites and maintains the most important affections of this kind, in order to establish the curative indications which they present, and the most proper plan of treating them. No considerations are presented on surgical diseases that may be said to arise from the debility of certain tissues. M. Begin does not deny the existence of this class of lesions, but he does not consider them quite as numerous as some persons think; and as surgeons and physicians have made such an abuse of stimulants, he thinks it less necessary to show where they are useful, than to point out the more numerous cases where they are injurious.

After appropriate remarks on the different methods employed in the local treatment of acute surgical diseases, the author observes—

“The most judicious surgeons have for a long time sanctioned the propriety  
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of that common custom which consists in covering the wounded parts with a solution of the muriate of soda, wine, or camphorated spirits, and some other topical irritants which they lavish in great abundance in cases even of wounds of fire-arms. Experience has proved, that these liquids, far from preventing or moderating the swelling and inflammation, are only proper to hasten the moment of their appearance, and to render them more considerable by augmenting the excitation of the parts. Pure water has seemed, with reason, to be the topical remedy the most simple and the most salutary which we can employ in a great number of cases. Applied cold, and for a space of time sufficiently long, it eases promptly the pain; opposes the effects of the stimulation produced by the wound; and the afflux of the fluids. Employed lukewarm, when the inflammation is developed, it possesses in a high degree an emollient property: it calms and relaxes the tissues, it moderates the organic movements, and favours very much the termination of the inflammation by resolution." p. 41.

The latter part of this chapter is occupied with the consideration of the use of antiphlogistics after surgical operations, and in the treatment of acute inflammations generally. In conclusion the author remarks very properly—

"The adage which has had in the practice of surgery as well as in medicine, the most pernicious consequences, is thought to be the following: 'When,' says a modern writer more remarkable for the brilliance of his style than for the profoundness and justness of his opinions; 'when prostration of strength complicates an inflammation, whatever be its seat, do not fear to augment it by the use of tonics.'\* It is at this day, perfectly demonstrated, that this prostration depends, almost always, on the excess of local inflammation, or the sympathetic inflammation of the stomach and intestines, and that the above axiom, independently of that which is absurd in theory, would be very dangerous if it were strictly followed in practice." p. 62.

The third chapter treats of the sympathetic phenomena determined by acute surgical lesions. The physiological and pathological details therein contained, are of the highest importance in medico-chirurgical theory and practice. They serve to elucidate a number of morbid phenomena, and show the proper basis upon which to ground the treatment of many internal affections which often complicate wounds.

The treatment of internal irritations which complicate surgical affections, is next judiciously considered. The curative indications are 1st. "*To diminish the violence of local inflammation.*"—2d. "*To combat the previous irritations of the viscera.*"—3d. "*To remove from the wounded, all those causes capable of provoking in them, internal inflammations.*"—4th. "*To combat the internal affections which complicate external injuries, when we have not been able to prevent their development.*" These indications are treated of separately.

The fifth chapter considers the nervous affections produced by acute surgical lesions. Among these are *tetanus*. M. Begin considers tetanus to depend upon an irritation of the brain, the spinal marrow, and the rachidian prolongation; or rather, that the tetanic rigidity is nothing more than an effect of this irritation, which is itself determined by the stimulation of some other part of the body. This original stimulation he thinks resides very often in the injured part itself; this he infers from the tetanic rigidity very often manifesting itself after wounds by tearing, and the injury of very nervous and sensible parts. But these are not alone the causes which he thinks may produce tetanus: vicis-

\* *Nosographie Chirurgicale*, tom. I. page 204, fifth edition.



situdes of heat and cold; the sudden suppression of the cutaneous transpiration; a gastrite more or less intense, are some of the circumstances which he thinks most frequently determine tetanus even in those who are wounded. It is owing he thinks to the greater susceptibility to impressions,—the stimulation of their nervous system,—the activity of the sympathies,—and the disturbance in their organic actions, that the wounded are more liable to tetanus than others. He goes on further to remark—

“Surgeons have committed a serious error in wishing always to find in the wounds themselves the causes of tetanus. A man, for example, is wounded on the finger; the wound continuing to the tenth day, is a lively red, and covered by a healthy suppuration; there exists in the part, neither sloughing, tumefaction, nor pain. In the meantime, the patient, after having taken exercise, lies down, fatigued, on his bed near an open window; he becomes chilly very soon; shiverings come on, and some hours after, tetanus is developed. They then lavish opium; they explore the wound in order to be certain that there is not any foreign body concealed in it; finally, they cut off the wounded part, and the patient dies. I demand, was it not absurd to search in the wound for the cause of tetanic affection? Did not this depend on the impression made by the cold on the integuments, and was it not developed after the same mechanism as the tetanus which destroys under similar circumstances, children, and above all young negroes between the tropics? How often have errors of this kind been committed, and how often have they not accused the wounds of provoking the tetanus which was manifestly determined by gastro-intestinal irritations! On some occasions it has appeared to me that cold falling upon the surfaces of solutions of continuity in a state of suppuration, could determine the affection of which we are speaking, by provoking a true metastasis of irritation to the central parts of the nervous system. Then the wound becomes dried up, pale, wan, and sometimes insensible, at the same time that the tetanic rigidity is developed and makes its progress.” p. 103.

To combat tetanus, the author proposes that we should remove its true causes. Thus we may employ sometimes incisions for the purpose of separating nerves incompletely divided,—sometimes narcotics, vermifuges, sudorifics, epigastric bleedings, baths, stimulating frictions, &c. To this treatment, variable according to the causes of the disease, the author recommends the application of leeches to the temples, the back of the neck, and along the spine. We have in two instances observed striking benefits from general bleeding and leeches to the spinal column.

In the sixth chapter, M. Begin has discussed at some length, the pathology of scrofula and cancer; and appropriate notes on these subjects are added by the translator. We shall pass over these observations, merely with the remark, that they contain many valuable reflections. The seventh chapter, which treats of the local treatment of chronic surgical diseases, contains several interesting cases illustrative of the utility of antiphlogistics in cancer, and which show clearly what astonishing advantages can be derived from their judicious employment in this formidable disease.

The consideration of the sympathetic phenomena produced by external chronic irritations, occupies the eighth chapter. These considerations are of the highest importance to the surgeon. They serve to throw much light on the causes and seat of internal affections which almost always manifest themselves in important surgical diseases of long standing; and likewise point out the most



proper plan of treatment to be adopted for the purpose of removing them. Passing over some important remarks, we shall make the following extract:—

“There is a phenomenon unfortunately too common in large hospitals, and which merits here, a special consideration. It often happens after great operations, and particularly after amputation performed in cases of white swelling, caries, or other chronic diseases of the members, that the patients, whose general state of health appeared very good, die in several days or weeks. This fatal issue is announced by the continuation of the thinness, feebleness, and inappetence which precedes the operation. The traumatic fever, the development of which generally follows this, is continued in a moderate degree, without its being possible to know the cause. On opening the dead body, one of the internal parts, such as the pleura, the parenchyma of the lungs, the liver, the peritoneum, or the spleen, but most commonly the pleura, is found filled with pus, and in a more or less advanced state of disorganization. The most attentive examination of the subject, often will not lead to a knowledge of the lesion that should produce death. A dry cough is quite common, a feeling of heaviness in one side of the chest, and a dull sound which this side gives to percussion, announce in a manner sufficiently positive, the suppuration of the pleura; but these signs do not become evident until the membrane is already filled with a large quantity of liquid and no further attempts can serve the patient. It is the same with the pain in the hypochondriæ or in the whole of the abdominal cavity, which accompanies the suppuration of the liver, the spleen, or the peritoneum. Lesions of this kind are very serious and almost constantly fatal.

“The profound study of the laws of the living organization, alone permits us to unveil the mechanism by which affections of this kind are produced. If it is considered, that these internal suppurations do not manifest themselves until after chronic diseases which have for a long time caused the patient to suffer, and fatigued the economy, it will appear reasonable that they are the result of stimulation sympathetically exercised by the irritated external organs, on the parts which are their seat. The super-excitation which is produced under these circumstances, often establishes itself with slowness, without producing a considerable disturbance in the functions of the affected organs, and without provoking an acute and violent febrile agitation. Then practitioners may mistake the too fugitive signs of internal lesion, and the opening of the body will show him disorders, the existence of which he had not foreseen. This may happen with subjects who die of external chronic inflammations without ever having been aided by art. But let a person operate; let the diseased part be re-trenched—at a time when some internal organ begins to be irritated; then this irritation, far from ceasing, continues its march, making new progress; the acute inflammation and traumatic fever which follow the operation, instead of contributing to extinguish, gives to it new energy, by the sympathetic stimulation and circulatory movement which they determine. Perhaps, at this time, the sudden withdrawal of a focus of suppuration already of long standing, still disposes the economy to a similar secretion elsewhere. However it may be, we cannot consider the internal abscesses of which we now speak, as independent of the external lesions to which they succeed; at the period of the operation, they either existed already, but were of too little magnitude to be discovered, or the organs which they invaded were not yet but sympathetically irritated, but with such force, that this irritation might not have ceased by the ablation of the part which had provoked it, and that, to the contrary, had made new progress after the operation.” p. 197.

Lastly, the author considers the treatment of internal irritations which complicate chronic surgical diseases; and notices the errors of surgeons in relation to this subject. He observes—



“Surgeons, in treating patients affected with chronic diseases in whom the viscera begin sympathetically to inflame, still combat the hectic fever with bark and its preparations; want of appetite, with bitters; diarrhœa, with astringents and opium; feebleness, with tonics in every form; and internal accidental phlegmasiæ, which come on during this state of debility, with vesicatories, and, almost always, exciting drinks. To restore lost strength, give tone to the stomach, contract the mucous follicles of the large intestines, combat the adynamic phlegmasia, by removing local debility of the vessels, such are the general indications which they propose to fulfil. It seems as if the whole of Brownism had taken refuge in this portion of the healing art. But, what are the most ordinary results of this practice? Exasperation of the symptoms, and the rapid death of the patients.” p. 205.

He further observes—

“Always when a surgical lesion tends to become chronic, it is necessary to examine the nature of this lesion, its seat, the manner in which it progresses, and the effects that may be expected from the internal and external treatment which is proposed to be employed. The temperament, the age, the strength and actual state of the constitution of the patient, are of great importance in determining what course to pursue. If it is thought that the patient is sufficiently strong to resist the violence and prolongation of the irritation;—if, besides, the local lesion is of such a nature as to be able to subside spontaneously, or by well-directed efforts of art:—we should most assuredly temporize and put in use such therapeutic means as may be most suitable. But when the result of the calculation of the practitioner is opposed to this proceeding, and the patient is threatened with immediate danger, or the local disease seems to be of an incurable nature otherwise than by operating, it is necessary without further delay, to have recourse to the latter.” p. 206.

After having considered the time most proper for operating, and noticed the opinions of some with regard to this subject, the author next inquires:—after the use of instruments is decided upon, what preparation ought the patient to undergo, finally to insure the success of the operation? We will here insert his remarks:—

“Enlightened practitioners have for a long time since, sanctioned the empirical and ridiculous method of bleeding, purging, and bathing all patients, previous to performing the amputation of a limb, the extraction of a vesical calculus, the incision of a fistula in ano, etc. The surgeon enlightened by pathological physiology, confines himself to examining with attention, the state of all the organs and the manner in which all the functions are executed. Having acquired by this investigation, an exact knowledge of the different parts of the patient on whom he is to operate, he determines easily what should be done in order to prevent the accidents which may succeed the operation.”

“If the patient is otherwise healthy, the only reasonable preparation consists in employing means the most proper either to diminish the sensibility, or to moderate the circulatory movement if it is violent and appears disposed to become more so, or finally, in producing a state of relaxation in the gastric passages, capable of preventing the too rapid and too intense development of gastritis. Baths, bleeding, some emollient lavements, diluent drinks, and a soothing regimen, are sufficient to fulfil these indications, to which, no doubt, it is not necessary to attach very great importance, but it will be dangerous to neglect them entirely. I know many surgeons of very great expertness in the execution of operations, and who are, notwithstanding, less successful than others, because they do not pay sufficient attention to methodically preparing their patients before the operation, and because they do not prevent and combat with sufficient attention and energy the inflammatory affections which succeed operations.”



“If the person on whom we are to operate is in a feeble state of health, accompanied with notable disturbances in the most important functions, the preparation which we ought to put in use ought to have for its object the combating of the irritations of the internal organs. Thus, for example, if the patient who is to undergo an amputation has the skin dry and burning, the stomach painful, the point and borders of the tongue red, intense thirst, a frequent and hard pulse; beware of operating under such circumstances. Abstain, above all, from having recourse to aliments for the purpose of increasing the forces; to sudorifics for establishing the cutaneous transpiration; to purgatives, with the intention of disembarassing the intestinal canal of supposed bilious or mucous saburral materials; finally, to bark, intended to prevent the return of the febrile action. Such a treatment, which some practitioners still adopt in the cases of which we speak, would be eminently dangerous: it would have for its almost inevitable effect, the exasperations of the symptoms; and even when it does not produce all the evil of which it is susceptible, whilst precious time is lost by administering in vain, the favourable period for the operation passes. It is proper then at this time, to have recourse to general baths, soothing drinks, epigastric bleedings, and to a regimen composed of a small quantity of aliments that are light and easy of digestion. These means do not enfeeble the patients; far from it: the gastric phlogosis being diminished, the secretions are reëstablished; nutrition recovers a part of its activity; and the return of a colour in the skin and some firmness in the muscles, announce that the economy is in a state for supporting the operation.”

“Analogous means ought also to be employed, if other organs than the digestive canal become the seat of a sympathetic irritation determined by the external disease. The pectoral organs, the liver, the spleen, and the whole of the abdominal cavity should then be examined with great attention. If the patient cannot take a full inspiration without experiencing pain; if he is troubled with a cough more or less frequent; if percussion of the thorax does not give, above all, a clear sound; if the stethoscope announces the existence of some lesion in the organs of respiration and circulation, expect to see an external inflammation arise, and thus rob you as well as the patient, of the fruit of the best executed operation. It is, therefore, of the highest importance to combat at this time, with energy, the already developed or only imminent irritations of the organs, by means of local bleedings, baths, soothing drinks, a strict regimen, and revulsives—such as vesicatories, setons, moxas, cauteries, &c. The same attention ought to be paid to the exploration of the abdominal viscera, and the same perseverance in destroying the very last vestiges of their phlegmasiæ. It is only after being assured of the proper state of all the viscera, that we are permitted to operate, and that we can do it with some security. It is here that medical knowledge extended and founded on a wholesome physiology, procures for surgeons who possess it, signal success; whilst under the same circumstances, operators limited to manual action, meet, in spite of their dexterity, only with inevitable reverses.” p. 215.

We cannot attach too much importance to the period of operating in chronic surgical diseases; and there can be no question but that a great many operations have been unsuccessful, because they have been performed at a period when the irritations which required them have had their greatest intensity. At this time the organs are sympathetically excited by the local lesion; and as they have become habituated to this focus of irritation, when it is taken away, the most trivial cause will produce a similar irritation of some other organ. The parts secondarily invaded, will likewise be more quickly destroyed, as they have been already for a long time predisposed to the phlegmasia which attacks them. It is for these reasons, that cancerous diseases so often relapse. It becomes proper then, according to our author's views, to make use of an an-



tiphlogistic treatment before operating. Leeches to the tumour or ulcer, emollient cataplasms, baths, &c. should be used. In the cases of cancer, when we have succeeded in removing the lancinating pains, established the nutritive functions, and lessened the sympathetic phenomena produced by the cancer, we may operate with safety; and the chances of a return of the disease will be very much diminished.

In conclusion, we recommend the work to the profession generally: it should be read by every student who wishes to have a knowledge of his profession, grounded upon correct views of pathology and pathological physiology.

J. D. H.

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XVII. *The Philosophy of Health; or an Exposition of the Physical and Mental Constitution of Man, with a View to the Promotion of Human Longevity and Happiness.* By SOUTHWOOD SMITH, Physician to the London Fever Hospital, to the Eastern Dispensary, and to the Jews' Hospital. Vol. I. pp. 408. 12mo. London, 1835.

The objects of this work are far more comprehensive than the title would lead us to suspect. It is, as Dr. Smith himself observes, "to give a brief and plain account of the structure and functions of the body, chiefly with reference to health and disease;" and this "is intended to be introductory to an account of the constitution of the mind, chiefly with reference to the development and direction of its powers." Such a definition would embrace every branch of medical science, and it is impossible to say to what extent the work might be expanded.

The present volume is occupied with but two of those branches,—anatomy and physiology. It is a treatise on these subjects adapted to the general reader—intended, indeed, exclusively for his use—and illustrated by upwards of one hundred wood engravings.

Dr. Smith's style is well suited to his subject. It is plain, terse, and withal accurate. In such a production we look not for novelty.

His remarks on the immortal discoverer of the circulation of the blood are extremely apposite, and of common application.

"Before the time of Harvey, a vague and indistinct conception, that the blood was not without motion in the body had been formed by several anatomists. It is analogous to the ordinary mode in which the human mind arrives at discovery, that men's minds should have an imperfect conception of an unknown truth, before some one mind sees it in its completeness and fully discloses it. Having, about the year 1720, succeeded in completely tracing the circle in which the blood moves, and having at that time collected all the evidence of the fact, with a rare degree of philosophical forbearance, Harvey still spent no less than eight years in reëxamining the subject, and in maturing the proof of every point, before he ventured to speak of it in public. The brief tract, which at length he published, was written with extreme simplicity, clearness and perspicuity, and has been justly characterized as one of the most admirable examples of a series of arguments deduced from observation and experiment that ever appeared on any subject.

280. "Cotemporaries are seldom grateful to discoverers. More than one instance is on record in which a man has injured his fortune and lost his happiness through the elucidation and establishment of a truth which has given him immortality. It may be that there are physical truths yet to be brought to



light, to say nothing of new applications of old truths, which, if they could be announced and demonstrated to-day, would be the ruin of the discoverer. It is certain that there are more truths to be discovered, expounded, and enforced, which, if any man had now penetration enough to see them, and courage enough to express them, would cause him to be regarded by the present generation with horror and detestation. Perhaps, during those eight years of reëxamination, the discoverer of the circulation sometimes endeavoured in imagination to trace the effect which the stupendous fact, at the knowledge of which he had arrived, would have on the progress of his favourite science; and, it may be, the hope and the expectation occasionally arose that the inestimable benefit he was about to confer on his fellow men would secure to him some portion of their esteem and confidence. What must have been his disappointment when he found, after the publication of his tract, that the little practice he had had as a physician by degrees fell off. He was too speculative, too theoretical, not practical. Such was the view taken even by his friends. His enemies saw in his tract nothing but indications of a presumptuous mind that dared to call in question the revered authority of the ancients; and some of them saw, moreover, indications of a malignant mind, that conceived and defended doctrines which, if not checked, would undermine the very foundations of morality and religion. When the evidence of the truth became irresistible, then these persons suddenly turned round and said, that it was all known before, and that the sole merit of this vaunted discoverer consisted in having circulated the circulation. The pun was not fatal to the future fame of this truly great man, nor even to the gradual though slow return of the public confidence even during his own time, for he lived to attain the summit of reputation." p. 381.

And how often are we not doomed to hear, at the present day, the same objections made to the scientific physician from whom all essential improvements in medicine must nevertheless originate. Science, instead of being regarded as the foundation of all correct practice, is too frequently, by the ignorant, esteemed incompatible with it. The remark is so palpably absurd, that it requires no refutation, but it is too often used by the illiberal to injure a more distinguished brother, and the feeling—the prejudice—is thus extended amongst the community. If the mind of the physician be duly imbued with the principles of his science, a very short experience will enable him to apply it to full advantage in practice, whilst no amount of practice will compensate for the want of science.

We select the author's description of the action of the heart in the circulation as an example of the mode in which he handles his subject.

"The contraction of the heart is the power that moves the blood; and this contraction generates a force which is adequate to impel it through the circle. From experiments performed by Dr. Hales it appears, that if the artery of a large animal, such as the horse, be made to communicate with an upright tube, the blood will ascend in the tube to the height of about ten feet above the level of the heart, and will afterwards continue there rising and falling a few inches with each pulsation of the heart. In this animal, then, the heart acts with a force capable of maintaining a column of ten feet. Now a column of ten feet indicates a pressure of about four pounds and a half in a square inch of surface. Suppose the human heart to be capable of supporting a column of blood eight feet high, this will indicate a pressure of four pounds to the square inch; but the left ventricle of the heart, while it injects its column of blood into the aorta, has to overcome the inertia of the quantity of blood projected: of the mass already in the artery, and of the elasticity of the vessel yielding to a momentary increase of pressure: it is probable, therefore, that the heart acts with a force of six pounds on the inch. The left ventricle, when distended, has about ten



square inches of internal surface: consequently the whole force exerted by it may be about sixty pounds. According to the calculation of Hales, it is fifty-one and a half. Now, it is proved by numerous experiments, that, after death, a slight impulse with the syringe, certainly much less than that which is acting upon the blood in the same artery during life, is sufficient to propel a solution of indigo, or fresh drawn blood, from a large artery into the extreme capillary. If, therefore after death, a slight force will fill the capillaries, a force during life equal to sixty pounds must be adequate to do so.

291. "The heart, with a force equal to the pressure of sixty pounds, propels into the artery two ounces of blood at every contraction. It contracts four thousand times in an hour. There passes through the heart, therefore, every hour, eight thousand ounces or seven hundred pounds of blood. It has been stated that the whole mass of blood in an adult is about twenty-eight pounds: on an average the entire circulation is completed in two minutes and a half; consequently a quantity of blood equal to the whole mass passes through the heart from twenty to twenty-four times in an hour. But though the average space of time requisite to accomplish a complete circulation may be two minutes and a half, yet when a stream of blood leaves the heart, different portions of it must finish their circle at very different periods, depending in part upon the length of the course which they have to go, and in part upon the degree of resistance that obstructs their passage. A part of the stream, it is obvious, finishes its course in circulating through the heart itself; another portion takes a longer circuit through the chest; another extends the circle round the head; and another visits the part placed at the remotest distance from the central moving power. Such is the velocity with which the current sometimes goes, that, in the horse, a fluid injected into the great vein of the neck, on one side, has been detected in the vein on the opposite side, and even in the vein of the foot, within half a minute.

292. "It has been shown that the different chambers of the heart have a tendency to perform their movements in a uniform manner, and in a successive order; that they contract and dilate in regular alternation, and at equal intervals; but, moreover, they continue these movements equally without rest and without fatigue. On go the motions, night and day, for eighty years together, at the rate of a hundred thousand strokes every twenty-four hours, alike without disorder, cessation, or weariness. The muscles of the arm tire after an hour's exertion, are exhausted after a day's labour, and can by no effort be made to work beyond a certain period. There is no appreciable difference between the muscular substance of the heart and that of the arm. It is true that the heart is placed under one condition which is peculiar. Muscles contract on the application of stimuli; and different muscles are obedient to different stimuli;—the voluntary muscles to the stimulus of volition, and the heart to that of the blood. The exertion of volition is not constant, but occasional: the muscle acts only when it is excited by the application of its stimulus: hence the voluntary muscle has considerable intervals of rest. The blood, on the contrary, is conveyed to the heart without ceasing, in a determinate manner, in a successive order; and this is the reason why through life its action is uniform: it uniformly receives a due supply of its appropriate stimulus. But why it is unwearied, why it never requires rest, we do know. We know the necessities of the system which render it indispensable that it should be capable of untiring action, for we know that the first hour of its repose would be the last of life; but of the mode in which this wonderful endowment is communicated, or of the relations upon which it is dependent, we are wholly ignorant.

293. "The force exerted by the heart is vital. It is distinguished from mechanical force in being produced by the very engine that exerts it. In the best constructed machinery there is no real generation of power. There is merely concentration and direction of it. In the recoil of the spring, in the reaction of condensed steam, the energy of the expansive impulse is never greater than the force employed to compress or condense, and the moment this power is



expended, all capacity of motion is at an end. But the heart produces a force equal to the pressure of sixty pounds by the gentlest application of a bland fluid. Here no force is communicated to be again given out, as in every mechanical moving power; but it is new power, power really and properly generated; and this power is the result of vital action, and is never in any case the result of action that is not vital." p. 391.

But all this, it may be said, is mere physiology! What has it to do with the "Philosophy of Health?" Every topic discussed, in the volume before us, is altogether preliminary;—the *denouement*—the more purely hygienic portion we must look for in the future volume or volumes, for, from the way in which the present is occupied, we have a right to expect more than one before the subject is exhausted.

R. D.

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XVIII. *Kritisch-etymologisches Medicinisches Lexikon oder Erklärung des Ursprungs der besonders aus dem Griechischen in die Medicin und in die zunächst damit verwandten Wissenschaften aufgenommenen Kunstausdrücke, zugleich als Beispielsammlung für jede künftige Physiologie der Sprache, entwerfen.* Von LUDWIG AUGUST KRAUS, Dr. Philos. et Medic. legens zu Göttingen, Mitglied der Königl. Preuss. Gesellschaft der Aerzte und Wundärzte zu Berlin, der Grossherzoglichen Gesellschaft für die gesammte Mineralogie zu Jena u. a. gel. Gesellschaften. Zweite, stark vermehrte, Auflage. Göttingen, 1826. 8vo. pp. 880.

*Nachtrag zu dem Kritisch-etymologischen Medicinischen Lexikon.* Von LUDW. AUG. KRAUS, u. s. w. Göttingen, 1832. 8vo. pp. 420.

*A Critico-etymological Medical Dictionary, or Explanation of the Origin of the Technical expressions derived from the Greek especially, and employed in Medicine and the intimately associated Sciences, &c.* By L. A. KRAUS.

*Supplement to the same, &c.*

"It is the fate of those"—says the great English lexicographer, in the preface to the folio edition of his Dictionary of the English language—"who toil at the lower employments of life, to be rather driven by the fear of evil, than attracted by the prospect of good; to be exposed to censure without hope of praise; to be disgraced by miscarriage, or punished for neglect, where success would have been without applause, and diligence without reward. Among these unhappy mortals is the writer of dictionaries, whom mankind have considered, not as the pupil, but the slave of science, the pioneer of literature, doomed only to remove rubbish and clear obstructions from the paths, through which learning and genius press forward to conquest and glory, without bestowing a smile on the humble drudge that facilitates their progress. Every other author may aspire to praise; the lexicographer can only hope to escape reproach; and even this negative recompense has been yet granted to very few."

But, although this is the fate, which the lexicographer has to anticipate, there are some splendid exceptions to it; and one of the most prominent is the case of the distinguished writer, who, in the passage we have cited, has so eloquently deplored the misfortunes of the craft, and who, with unnecessary humility, designates the *lexicographer* as "a writer of dictionaries; a harmless drudge, that brusies himself in tracing the original, and detailing the signification of words."



Yet how few men could have produced the dictionary, which has added perhaps as much renown to the name of Johnson, as any of his other undertakings. Something more than drudgery is requisite: clearness of conception, readiness and accuracy of discrimination, and perspicuity of definition are all demanded, and but very few are met with who possess these qualifications; whilst, on the other hand, every individual esteems himself capable of criticizing, especially where so many opportunities are afforded as in the pages of a dictionary;—

“A man must serve his time to ev'ry trade  
Save censure. Critics all are already made.”

The author of the dictionary before us is one of those laborious students of whom Germany affords us so many examples. His vocabulary is confined chiefly to the technical terms of Greek origin, but as this is the language chosen, by common consent, for the formation of the scientific terms that are needed in the progress of science, it is sufficiently comprehensive. His work displays great learning, and accuracy, and we are pleased to observe, that he has given due attention to the quantity of words, so as to regulate the pronunciation. It is, indeed, a matter of regret to observe the utter neglect of orthoëpy amongst the profession, even in the case of terms, regarding the quantity of which there cannot be a shadow of dispute. A difference of sentiment may exist as to the vowel sounds; whether *i* for example, shall be pronounced according to the English or the Scotch, and Continental fashion,—*gastri'tis* or *gastre'tis*; but, there can be no diversity of opinion respecting the impropriety of making the *i* short, as in *gas'tritis*. Yet we are constantly doomed to observe mistakes in quantity even from medical teachers, by whom the errors are handed down to the student, and thus perpetuated. We hear *ab'domen*, *duod'enum*, *umbil'icus*, *tinn'itus aurium*, *co'nium*, *parenchy'ma*, *hæmateme'sis*, *hæmopty'sis*, &c. although the quantity in every case is uniform and settled.

We have said, that the Greek is now selected as the language from which the technical terms are to be formed, but we frequently meet with words of a hybrid formation, partly composed of Greek and partly of Latin, and these adopted by good writers; only, however, because they have become conventional. *Conjunctivitis*, *duodenitis*, &c. are precisely in this case, and have been properly objected to by the author before us.

“*Conjunctivitis* is used to signify inflammation of the conjunctiva, (oculi)! very improperly compounded from *conjunctiva*, with the Greek ending—*itis*.” p. 236.

“*Duodenitis*, barbarously formed in place of *dodecadactylitis*.” p. 290.

“*Dodecadactyli'tis*,—an inflammation of the duodenum; like *iritis*, &c. formed from

“*Dodēcadactylon* or—*um*, (intestinum, εντερον,) δωδεκαδακτυλον? the ‘twelve finger gut,’ (Zwölffingerdarm,) the *duode'num*; from *dodeca*, (δωδεκα, ‘twelve,’) and *dactylus*, (δακτυλος, ‘a finger.’) It is therefore much more significant than the Latin *duodenum*, although not so good as the German; *Zwölffingerdarm*!”\* p. 286.

The work of M. Kraus is well adapted for the purpose intended, although there is occasionally—and especially in the “*Nachtrag*”—a needless display of learning, in adducing the definitions given by the older writers. R. D.

\* Literally, “twelve finger gut.”—R. D.



XIX. *Animal and Vegetable Physiology, considered with reference to Natural Theology.* By PETER MARK ROGET, M. D. Secretary to the Royal Society, Fullerian Professor of Physiology in the Royal Institution of Great Britain, Vice President of the Society of Arts, Fellow of the Royal College of Physicians, Consulting Physician to the Queen Charlotte's Lying-in Hospital, and to the Northern Dispensary, &c. &c. Vol. I. pp. 593. Vol. II. pp. 661.

This is decidedly, we think, the best of the Bridgewater Treatises that relate directly or indirectly to medical science. Dr. Roget has been known for many years as a prosecutor of physiology, and a zealous investigator of physical laws and phenomena. He was accordingly well worthy of selection for the author of a treatise on comparative physiology.

"The object of this treatise," says Dr. Roget, in his preface, "is to enforce the great truths of natural theology, by adducing those evidences of the power, wisdom, and goodness of God, which are manifested in the living creation. The scientific knowledge of the phenomena of life, as they are exhibited under the infinitely varied forms of organization, constitutes what is usually termed *PHYSIOLOGY*, a science of vast and almost boundless extent, since it comprehends within its range all the animal and vegetable beings on the globe. This ample field of inquiry has, of late years, been cultivated with extraordinary diligence and success by the naturalists of every country: and from their collective labours there has been now amassed an immense store of facts, and a rich harvest of valuable discoveries. But in the execution of my task this exuberance of materials was rather a source of difficulty; for it created the necessity of more careful selection and of a more extended plan.

"In conformity with the original purpose of the work, which I have all along endeavoured to keep steadfastly in view, I have excluded from it all those particulars of the natural history both of animals and of plants, and all description of those structures of which the relation of final causes cannot be distinctly traced; and have admitted only such facts as afford manifest evidences of design. These facts I have studied to arrange in that methodized order, and to unite in those comprehensive generalizations, which not only conduce to their more ready disquisition and retention in the memory, but tend also to enlarge our views of their mutual connexions, and of their subordination to the general plan of creation. My endeavours have been directed to give to the subject that unity of design, and that scientific form, which are generally wanting in books professedly treating of natural theology, published prior to the present series; not excepting even the unrivalled and immortal work of Paley. By furnishing those general principles, on which all accurate and extensive knowledge must substantially be founded, I am not without a hope that this compendium may prove a useful introduction to the study of natural history: the pursuit of which will be found not only to supply inexhaustible sources of intellectual gratification, but also to furnish to contemplative minds, a rich fountain of religious instruction. To render these benefits generally accessible, I have confined myself to such subjects as are adapted to every class of readers; and, avoiding all unnecessary extension of the field of inquiry, have wholly abstained from entering into historical accounts of the progress of discovery; contenting myself with an exposition of the present state of the science. I have also scrupulously refrained from treading in the paths, which have been prescribed to the other authors of these treatises; and have accordingly omitted all consideration of the hand, the voice, the chemical theory of digestion, the habits and instincts of animals, and to structures of antediluvian races; the extent of the field which remained, and which, with these few exceptions, embraces nearly the whole of the physiology of the two kingdoms of nature, already affording ample occupation for a single labourer." p. 11.



Yet these very omissions prevent the work from being considered as an outline of the whole subject. The assignment, indeed, of branches of the same department to different individuals, has interfered largely with the value of some of the "treatises;" whilst others—as that of the "hand," assigned to Sir Charles Bell—have been but little restricted to their objects, and have been expanded into treatises on certain topics of natural history but little connected with the subject.

The medical, as well as the general, student is usually but little acquainted with the first principles of natural history. To him Dr. Roget's work will be a valuable introduction. To the American reader it will soon be easily accessible, as, notwithstanding the expense of the illustrations, the enterprising publishers of the former "Treatises" have determined upon reprinting this.

The number of the wood-cuts is upwards of 460. To the first volume is prefixed an outline of Cuvier's classification of animals, with examples of animals belonging to each division.

R. D.

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XX. *Traité de Physiologie Médicale et Philosophique*. Par ALM. LEPELLETIER, de la Sarthe. *Experientia veritas*. Quatre volumes in 8, avec 11 planches et des tableaux synoptiques. Tome quatrième. Paris, 1833. pp. 588.

*A Treatise on Medical and Philosophical Physiology*. By ALM. LEPELLETIER, de la Sarthe, &c. &c. Vol. IV.

The concluding volume of this work does not lead us to modify the sentiments, which we expressed regarding its precursors.\* It is, on the whole, a singular production;—interesting in many of its relations, and comprising much useful matter, but by no means adapted for serving either as a sketch, or as a system of physiology. Upwards of three hundred pages of the third volume are devoted to the consideration of the intellectual and moral faculties. The author is evidently partial to psychological investigations, and one of the main faults of the work, is, that it contains more metaphysics than physics.

Two hundred and sixty-four pages of the volume before us are occupied with the consideration of the remaining "*Functions of Relation*,"—including the "*Functions of Expression*." The remainder embraces the physiology of the "genital functions," the "history of life"—"considerations on death"—"chemical decomposition of the organism," and, lastly, the "natural theory of the human races." What shall we say of the following specimen of credulity, which we find under the last head?

"Shall we speak of those sea men referred to by naturalists under the names Ambirs, Sirens, Tritons, and Nereids? Their existence seems to me to be admissible only in fable. Some individuals, who have lived in the midst of the seas, like the amphibia and fishes, have imposed upon naturalists in an age not very remote from our own. But it is sufficient to examine the principal traits of their history to discover, that every one of them, in place of being a Neptune with azure locks, was simply an individual of our own species, wonderfully gifted with the faculty of swimming. We also shall relate some examples of this singular peculiarity.

"A Sicilian, named Nicolas, born at Catania, of poor parents, had such an inclination and taste for living in the midst of the waters, that he could not pass

\* No. XXII. for February 1833, p. 479.



a single day in any season without diving. In consequence of this, his countrymen gave him the name, *Pesce Cola*, *Poisson Colas*, *Fish Colas*. Sometimes he remained a whole week in the sea, feeding on raw fish, which he caught swimming; he acted as a courier from one port to another; went from the continent to the isles, and became, in this manner, extremely useful, especially during storms and tempests. He readily sounded the most dangerous abysses. Frederic, King of Naples, was desirous of fathoming the famous whirlpool of the Sicilian strait, called *Charybdis* by the ancients. Nicolas at first refused to throw himself in; when the king cast a golden cup into the stream. Nicolas immediately dived in, and rose again *three quarters of an hour afterwards (!)* with the costly vessel. On a second occasion, he dived down, but was not seen afterwards.

“François De La Vega, a Spaniard, at the age of fifteen years, lived from 1674 to 1679, in the Western Ocean. Some fishers caught him at a distance from Cadiz, and restored him to his afflicted parents, who believed him to have been drowned five years before.” p. 580.

M. Lepelletier's gullibility seems only to be exceeded by that of his countryman, M. Julia, who, twelve years ago, published a work on malaria,\* which was crowned by the Royal Academy of Sciences of Lyons, and was described, at the time, we recollect, by one of the most respectable medical journals of the French metropolis, as a work containing “a great number of *interesting facts!*” He cites these very cases, with embellishments; for example, he says:

“In 1674, François De La Vega, aged fifteen years, swimming with his friends, suddenly disappeared, *and did not rise again until 1679!* During this time he nourished himself on raw fish;” and he subsequently adds, “No one is ignorant, that drowned people have been restored to life, after having remained *forty-eight hours under water*, whilst others cannot be restored, after the expiration of a few minutes.”

There has been a great deal of fable, by the way, respecting the length of time that a person may remain under water and yet admit of resuscitation. This must obviously vary greatly according to numerous circumstances—of age, strength, &c.—into which we cannot enter here; but, generally speaking, a few minutes, complete immersion renders the asphyxia irremediable. Yet it was at one time believed, and still is by many, that the trained divers in the pearl fisheries, can remain a long time beneath the surface. Maffæus states of the Brazilians, that they “are wonderfully skilled in the art of diving, and can remain sometimes for hours under water, with their eyes open, in order to search for any thing at the bottom.” Mersenne also mentions a diver, named John Barrinus, who could dive under water for six hours! It is a matter of doubt, however, whether any diver has been able to prolong his stay beyond a few minutes.

The type and the paper of M. Lepelletier's work are better than we usually observe from the French press; the typographical errors, are, however, unusually numerous, and the lithographic engravings the most contemptible, in design and execution, that we ever recollect to have seen in any work.

R. D.

\* *Recherches historiques, chimiques et médicales, sur l'air marecageux, &c.* Par J. S. E. Julia, Professeur de chimie médicale, &c. &c. Paris, 1823.



XXI. *Parallèle entre La Taille et la Lithotritie*. Par PH. FREDERIC BLANDIN, Chirurgien du Roi par quartier Chirurgien de l'Hôpital Beaulieu, &c. 8vo. Paris, 1834. pp. 167.

We shall notice this little work very briefly, not because the subject is unimportant, or the execution defective, but because it is impossible for any writer, however remarkable for clearness of style and power of condensation, to do justice to such a question within the time and space allowed to M. Blandin on this occasion. The essay was written as a "thèse par concours," and is highly creditable to the writer, but its value to the public is lessened by the very excellence that it may justly claim as a proof of skill in sketching, knowledge of surgical science, and capacity for teaching. It presents us with a very rapid view of the origin and history of the several operations for lithotomy and lithotrity, a comparative examination of the results of these different methods, and an investigation of the circumstances which should determine the choice of the one or the other mode of operating.

By a comparison of the success of lithotomy, since the operations have arrived at a high degree of perfection, and that of lithotrity, since the adoption of the forceps with three branches, M. B. arrives at the conclusion that the latter is more frequently productive of fatal consequences than the former. By a more extended comparison, he endeavours to show that the mortality from calculus, after operations has been increased instead of diminished, since the introduction of lithotrity. He is also convinced that the pain produced by this method is greater, on the average, than that induced by the perineal or high operations. Yet M. B. is unwilling to be considered an opponent of lithotrity, which he considers as "a happy conquest of surgery, that should advance at the same time, the rival and the sister of lithotomy, but can never entirely replace her." p. 165.

Certainly the array of serious accidents in consequence of this operation, which are detailed in the second chapter of the second part of this treatise, are sufficient to inspire the practitioner with caution in selecting only the most favourable cases—but, at the same time, the brilliant success which occasionally follows it, is sufficient to establish its reputation. Like most novelties, its merits have been exaggerated in the first instance, and consequently it has been charged, by its enemies, with much censure belonging more properly to the erroneous judgment of the surgeons who have employed it so generally.

We must confess that M. B. notwithstanding his apparent and avowed impartiality, exhibits occasional bias in his argument. His work, written as all such theses are—against time—displays strong marks of haste and imperfection; and his facts, which are by no means numerous, have been disputed by M. Civiale, in a letter, published in the *Journal Hebdomadaire*, for 1834, p. 211.

The subject is a very important one; for the operation of lithotrity has been attempted, or performed in this country repeatedly of late, and by several surgeons, with various success. M. Civiale is engaged in performing a more complete view than has yet appeared, of his practice and its results, both of which he considers unfairly handled by M. Blandin; when the necessary information is laid before us we shall endeavour to do more ample justice to the question, than would be possible on the present occasion, and shall then refer to this little treatise perhaps more fully than at present.

R. C.



XXII. *The Institutes and Practice of Surgery. Being the Outline of a Course of Lectures.* By WILLIAM GIBSON, M. D. Professor of Surgery in the University of Pennsylvania, Surgeon and Clinical Lecturer to the Alms-house Infirmary, &c. Fourth edition, greatly enlarged. Philadelphia, 1835. 2 vols. 8vo. pp. 877.

The modesty of the title of this work, which represents it as an outline, or enlarged syllabus of a course of lectures, is fully borne out by the preface.

“I do not presume,” says Dr. Gibson, “to offer these outlines to experienced members of the profession. They are designed exclusively for those young friends in whose concerns I feel a lively interest, and from whom I have received so many tokens of kindness and respect.”

Viewed in this light, the dimensions of the work are certainly ample, and many of its details would be interesting to a much wider circle of readers; but it is chiefly valuable in accordance with its design, as a companion and remembrancer to the student of medicine, recalling, in systematic order, the mass of facts and observations obtained from the learned and extensive lessons of the professor. If it passes over without notice, or with too slight attention, certain departments of surgery of high importance, the fault is chargeable rather to the culpable limitation of the time allowed for medical instruction in America, than to any neglect on the part of the professor.

The character of this work is so well-known among those for whose especial use it was originally written, that it is unnecessary to offer further comment on its general merits, especially after the notice which it has already received in this Journal, upon its first appearance; but as it has undergone, since then, several successive revisions, it would be improper in us to allow it to pass without a share of attention in its present dress.

In comparing the earliest with the present edition, we are particularly pleased to observe that numerous alterations and additions have been made, which tend considerably to enhance its value. Besides many minor changes, several surgical diseases are noticed which were not previously mentioned.

Under the head of hydro-rachitis or spina-bifida, seven cases of successful treatment are quoted, in which the plan recommended by Sir A. Cooper, consisting in repeated acupuncture and compression, has been employed by various surgeons. It is also stated, that there is every prospect of success in another case now pending in the Alms-house, which has been placed by Dr. Gibson under the charge of Dr. Skinner, one of the resident physicians of that institution, to be treated on the same principles.

Among the other additions made since the first appearance of the work, we may mention the entire sections on fissure of the palate, with the operations for staphyloraphy; congenital hernia; encysted rectum;—a name applied with rather dubious propriety to the preternatural pouches detected by Dr. Physick, as to the true nature of which Dr. Gibson appears to differ from the discoverer;—stricture of the rectum; imperforate anus; foreign bodies in the rectum; irritable testis; chronic enlargement of the testis; encysted testicle; tumours of the scrotum; wounds of the penis; ulcers of the penis; and lithotrity. Among the improvements in the *materia-chirurgica* we would notice with especial praise the apparatus for the application of the ligature in fistula in ano. R. C.



XXIII. *Transactions of the Medical Society of the State of New York.* Vol. II.  
Part II. Albany, 1835. 8vo. pp. 266.

The present, which is the concluding part of the second volume of the Transactions of the State Medical Society of New York, comprises seven papers; namely:—

*The Physiology of Respiration and Chemistry of the Blood, applied to Epidemic Cholera.* By Benjamin F. Joslin, M. D. &c.

This is unquestionably a highly ingenious and interesting paper. The author assumes the proposition, previously advanced by some of the European physicians, that the leading phenomena in cholera are dependent upon defective oxygenation of the blood, and that the disease bears a close relation to certain forms of asphyxia. He has attempted to show by a review of the circumstances under which the cholera has ordinarily prevailed and its various exciting causes, that these are precisely such as tend to impede the oxygenating function of the lungs, and thus cause an excess of carbon in the entire mass of the blood. This, we admit, appears on the first view, to be all extremely plausible; but when examined with more care, it will be found to be merely a hypothetical explanation of the cause of certain prominent symptoms by which the disease is accompanied, but still leaves entirely unexplained its real pathological character. The author does not, certainly, intend to refer to defective oxygenation of the blood all the phenomena characteristic of cholera from its onset until its termination? this cannot be supposed sufficient to explain the production of the profuse discharges from the bowels and skin; the sense of intense burning at the epigastrium, and the painful spasmodic affection of the alimentary canal and external muscles.

*Report on the Medical Botany of the Town of Hamilton, Madison County, New York.* Part I. By Drs. I. S. Douglass, and I. Babcock.

In presenting the first item of their report, the committee remark:—

“That a want of opportunity for extensive examination of the vegetable productions of this town, as well as too limited a knowledge of their medicinal properties, necessarily render this first part of their report very limited and imperfect. They have not aimed at originality, but have merely endeavoured to collect, within a small compass, so much of the existing knowledge of our domestic products as they have found within their reach.”

Considering the importance of the subject, the report is certainly very concise, and in many particulars unsatisfactory. This we the more regret, as we consider similar reports, when prepared with sufficient care, to be extremely useful to the medical practitioner, by affording him a knowledge of the localities and true remedial powers of the different medicinal plants of our own country.

*Essay on Hygeia.* By Dr. Elijah Porter, of Saratoga County.

While we cheerfully subscribe to the correctness of the remarks contained in this paper, they nevertheless appear to us to be possessed of neither sufficient importance nor novelty to warrant their insertion among the Transactions of a State Medical Society.

*Medical Topographical Report of the County of Onondaga.* By a committee of the Medical Society of that County.

This is, in common with the several similar reports presented in the former



Transactions of the Society, replete with useful and interesting observations. We would gladly induce, were we able, the professional gentlemen located in the different portions of our own state to present us with similar reports of the medical topography of their respective neighbourhoods. They would afford important materials for the study of the etiology of our endemic diseases.

*Essay on Cholera.* By James Manley, M. D. Resident Physician of the City of New York.

We conceive it to be important that every member of the profession who has had a sufficient opportunity for its study to present to the profession his own experience and views in relation to a disease of so destructive a character as epidemic cholera, even when these may not differ from such as have been already published. Hence, although the essay of Dr. Manley contains nothing particularly novel in relation to the pathology or treatment of that disease, the very coincidence of his observations with those of other physicians is an interesting and by no means unimportant fact.

*An Essay on the History, Preparation and Therapeutic Uses of Iodine.* By Samuel J. Hobson, M. D.

As this paper was published in a separate form several years since, and extensively circulated, it is unnecessary to notice it further on the present occasion.

*A Dissertation on the Remote and Proximate Causes of Phthisis Pulmonalis, &c.* By Andrew Hamersley, M. D.

So much has been written upon the subject of phthisis—so numerous, unfortunately, have been the opportunities presented to our profession for studying its phenomena, its progress, and the morbid lesions by which it is attended; and so fully have the effects of nearly every article of the materia medica been tested, in the hope of obtaining a remedy adapted to its cure or to arrest its progress, that little if any thing would appear to be left unknown in relation to the disease, so far at least as our present limited means enable us to extend our investigations. And yet, it may, with truth, be said, that our acquaintance with the correct pathology and proper treatment of pulmonary consumption is but imperfect and unsatisfactory—whether we shall ever attain to a more intimate knowledge of these important particulars is at the least problematical. In the dissertation of Dr. H. though excellent in many points of view, we find nothing calculated to remove the obscurity in which the true character of the disease is involved. The general facts which it contains are undoubtedly correct; the inferences, however, which the author draws from them will admit of not a little dispute. The following are the conclusions to which he arrives after a review of the present state of our knowledge in regard to the disease; namely—

“*First.* To esteem the occurrence of inflammatory symptoms as necessary to the production of consumption, is to disregard the obvious inferences drawn from the dissections and animadversions of such modern pathologists, as have made the subject of phthisis the object of their minute investigation, as Bayle, Laennec, &c. *Secondly.* Those nosologists, who, as Sauvages, Vogel, Sagar, Swediaur, have assigned to this disease a place as connected with general derangement of some one or more bodily functions, (class cachexiæ,) deserve a preference in this respect to those who, as Cullen, Crichton, Hosack, &c. have referred to it as a mere local affection, or as principally of an inflammatory character. *Thirdly.* The remote causes of this disease are divided, (derived?) from



such atmospheric agencies as have been detailed in the body of the essay. *Fourthly.* The exciting or proximate cause of the disease generally consists in the production of tubercles."

The present volume of the Transactions of the Society closes with a legal investigation into the powers of medical societies to expel their members, and an abstract of the proceedings of the annual session held in February of the present year.

D. F. C.

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XXIV. *De Thalamo et origine nervi optici in Homine et animalibus vertebratis. Dissertatio anatomica, quam, ad summos in Arte medica honores rite capessendos, die II. Aprilis H. L. S. Defendere Studebit, SOPHUS AUGUSTUS WILHELMUS STEIN, Chirurgiæ et Medicinæ candidatus, Chirurgus legionnarius, &c. Hauniæ, MDCCCXXXIV. 4to. pp. 66.*

*An Anatomical Dissertation on the Thalamus and origin of the Optic Nerve in Man and the other Vertebral Animals. Defended for the Degree of Doctor in Medicine by S. A. W. STEIN. Copenhagen, April 2d, 1834.*

The author of the present dissertation has given in detail a very accurate description of the structure, situation, and connexions of the thalami, and that portion of the brain from which the optic nerves are presumed to derive their origin in man and the different vertebral animals, which description is rendered perfectly intelligible by being accompanied with twelve well executed lithographic plates.

It is impossible for us, excellent and interesting as the present dissertation is, to offer to our readers any thing more than a very brief notice of it. To do the author justice, we should be obliged, were we to enter into an examination of his anatomical descriptions, to translate the greater part of the work, and would then scarcely convey a clear idea of his meaning without the aid of the accompanying lithographs.

The work of Dr. Stein constitutes certainly one of the most beautiful, erudite, and well executed inaugural dissertations, that we have had an opportunity of examining for a long time,—it confers a very great deal of credit on the industry and talents of its author.

D. F. C.

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XXV. *Ideen und Erfahrungen über die natur und behandlung der Asiatischen Brechruhr mit besonderer beziehung auf die Anwendung des Wismuths gegen dieselbe. Von Dr. LEOPOLD LEO. Warsaw, 1832. 8vo. pp. 95.*

*Observations upon the Nature and Treatment of the Asiatic Cholera, with particular reference to the Administration of Bismuth as a Remedy for the Disease. By L. LEO, M. D.*

This work, which appeared in 1832, contains the result of the author's observations and experience in relation to the epidemic cholera, as it occurred at Warsaw.

The confident manner in which Dr. Leo recommends the sub-nitrate of bismuth as an almost infallible remedy for the disease, at once directed the attention of physicians, particularly in the north of Europe, to that article, as one



capable of arresting the most urgent symptoms by which the epidemic is characterized, and the reports of some in its favour, if they were to be received without a cautious examination, would almost lead to the supposition that a specific for the disease had been discovered. Experience, however, very soon demonstrated the fallacy of this opinion, and scarcely any confidence is now placed in the remedial powers of bismuth in cholera,—less probably than is warranted by the entire mass of facts which have been recorded in relation to the effects of the article.

D. F. C.

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XXVI. *Ephemeriden der Naturkundige Wetenschappen*. Eerste Deel. 'Sgravenhage, 1834.

*Bibliothek for Læger*. Redigeret af dens medlem G. OTTO, M. D. København, 1834.

*The Ephemerides of the Natural Sciences*. Published at the Hague, 1834.

*The Medical Library*. Published at Copenhagen, under the Editorship of Professor OTTO. 1834.

We have received the numbers of both the above publications up to a very late period. Their contents present a striking illustration of the rapid and extensive circulation which, in this age of periodicals, is given to medical information. Through the medium of a well conducted journal, each member of the profession, however remotely located, may now be placed in almost immediate possession of all important contributions made to our science by the physicians of every part of the civilized world.

D. F. C.

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XXVII. *Journal of the Proceedings of a Convention of Physicians of Ohio, held in the City of Columbus, on the 5th day of January, 1835*. Cincinnati, 1835. pp. 30. 8vo.

This convention was held pursuant to a circular letter, addressed to—

“All scientific Practitioners of Medicine and Surgery in the State of Ohio, with the grand design of organizing for practical utility the whole scientific medical power of the state.”

The subjects which were brought before the attention of the convention were the following:—the regulation of professional etiquette; the construction of Independent Medical Societies; the support of a periodical Journal of Practical Medicine; the erection and location of public Asylums, for the reception of Lunatics and the instruction of the Blind; the promotion of the Temperance cause; the regulation of Vaccination; the convenient supply of the Leech; the erection of commercial hospitals in the valleys of the Mississippi, and the lakes by the general government; the legalization of the study of anatomy; the improvement of the state of medical education. These subjects were discussed and variously disposed of, and the convention then adjourned until the first Monday of January, 1838.

We are happy to find that the profession are awakening to their interests; it is time for them to take the management of their own concerns into their own hands.



## QUARTERLY PERISCOPE.

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### FOREIGN INTELLIGENCE.

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#### ANATOMY.

1. *Total absence of the Genital—Evacuation of the Urine through the Umbilicus—Displacement of the Anus.*—The subject of this case is now ten years of age; and exhibits the following appearances:—Size ordinary, complexion fresh, slight squint, total want of the genital organs, perforation of the abdomen for the exit of the urine. Instead of being in the centre of the abdomen, the umbilicus is in the lower portion of it, from one to four lines above the pubis, the space between the pubis and sternum being eight inches nine lines. The umbilicus is a triangular depression, one inch six lines large: in this depression two tumours, or rather fleshy excrescences exist; one nearly the size of a hazel-nut is irregularly round and covered with a reddish skin, the other smaller and divided into three parts by fissures. These three divisions appear to be rather recent fleshy growths than integuments long exposed to the air: such, however, is not the case. From each side of the latter tumour there is a cleft, out of which the urine is continually dribbling. On the mons veneris the skin is rough and uneven. The arch of the pubis is scarcely distinguishable, either on account of its non-existence or because the patient prevents a full examination, for he complains greatly of being touched in those parts. The iliac foramen is filled with a large tumour, formed by an intestinal hernia: if it be pressed the urine flows more freely; on the opposite side there is also a tumour which appears to be formed by fatty tissue.

Between the summit of the umbilical triangle alluded to and the anus, there is only a space of two inches six lines. The anus is exceedingly narrow, and appears to have a slightly developed sphincter. From it there is a cleft which separates the buttocks; from the coccyx to the anus the space is three inches four lines, and the cleft along it is very deep.

The parents of the child are of a sallow complexion, and remarkably thin; their other children are of scrofulous constitution: the youngest has an umbilical hernia.

As the child increased in age he slept less, his appetite meantime augmenting in an extraordinary manner. At present he eats nearly three pounds and a half of bread in the day; his stomach is always craving, though after each meal he suffers pain in it.

In consequence of the extreme sensibility of the edges of the clefts that give issue to the urine, it has been impossible to ascertain the depth and extent of the organ containing it. The faces are very frequently voided, and are seldom felt on such occasions. The recumbent posture being painful to the child, he



generally remains seated in bed, and as his head nods backwards and forwards, he frequently knocks it against the posts, which he says relieves the colicky pains he so often has at night. He walks with difficulty, and cannot run at all; the power of the right arm and leg is almost lost. His intellect is exceedingly precocious, and his sensitiveness of mind often obliges him to desire death.

In the above case there has evidently been an arrestation of development, the anterior parietes of the bladder being wanting, constituting what is called exstropion of the bladder. The child most probably belongs to the female sex, but whether there is a womb within or not, is of course uncertain. The hernia of the left side would appear to be formed by the rectum, which instead of descending into the pelvis, seems to pass immediately below the urinary organ, and turning at a right angle, to end just below the pelvis.—*Gaz. Méd. May 2d, 1835.*

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2. *Vascularity of the Serous Membranes.*—For some time, most anatomists have asserted, that the serous membranes are not vascular, and consist solely of a species of epidermis, beneath which are the vessels. M. Roux stated at a late meeting of the Academy of Medicine, that among the beautiful anatomical preparations of Panizza, an Italian anatomist, he has seen serous membranes, of every variety, entirely isolated, and the existence of a great number of vessels in them demonstrated by injection.—*Archives Générales, Dec. 1834.*

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## PHYSIOLOGY.

3. *New Principle, (Sub-rubrine,) discovered in Human Blood.* By W. B. O'SHAUGHNESSY, M. D.—A few days before my departure from Calcutta in April last, while engaged in the analysis of some specimens of blood drawn from patients labouring under disease of the spleen, my attention was forcibly attracted by some very remarkable phenomena, which were wholly inexplicable according to the previous state of our knowledge of the composition of the blood. These appearances surprised me the more, as in the course of my inquiries regarding the chemical pathology of the cholera, I was necessarily obliged to subject nearly two hundred samples of blood to a rigorous analysis, conducted chiefly according to the processes recommended by Lecanu and Denis, whose works are the latest and best authorities on this interesting subject.

The appearances I allude to, first presented themselves during an experiment made to ascertain the amount of colouring matter in 1000 grains of spleen blood. Being pressed for time, I adopted a mode of analysis calculated to afford more expeditious results than that I was previously in the habit of employing. It consisted in decanting the serum, and depriving the coagulum of its fibrine by kneading it in a muslin bag. Alcohol was then added, with a view to coagulate and throw down the colouring matter and adhering albumen. The precise amount of this albumen being readily known by data afforded by the analysis of the serum, the amount of pure colouring matter can thus be precisely computed. When the alcohol was added, and the coagulation effected, I threw the mixture on a very fine muslin filter, a very turbid fluid immediately passed through. Supposing that this was merely imperfectly coagulated colouring matter, I boiled the turbid fluid in order to accelerate the separation I expected; to my surprise, however, instead of this effect, the very contrary was produced. The heated fluid, instead of coagulating, became more transparent, and all the turbid flocculi were dissolved when the boiling point was attained. Allowed to cool, the solution again became cloudy, and when at 80° Fahrenheit, a copious deposit of a faint flesh colour was obtained. By alternate heating and cooling, whether gradual or sudden, the same effects were



Indefinitely produced. A portion was filtered and dried, in which state it was soluble in dilute alcohol, infusible when heated on platinum foil, and insoluble in sulphuric ether.

To those practically conversant with this département of animal chemistry, I need scarcely observe, that the preceding facts afforded by themselves the strongest evidence of the existence of a principle previously unknown in the blood then under examination. But as several gentlemen, who may hear or read this paper, are much more profitably employed than in the pursuits of practical analysis; I will venture to explain these proofs of the specialty of the principle in question.

The *animal* principles previously known to exist in human blood, were fibrine, albumen, oil, a compound of albumen and soda, traces of urea, and the red principle, called by some *hematosine*, by others simply *colouring matter*, and which, I think, should be termed *rubrine*, in conformity with the radical source from which the names of the other substances have been derived.

The substance noticed in the above experiment could not have been fibrine, because all the fibrine had been previously removed.

It could not have been albumen, as albumen is coagulated permanently by heat and by alcohol, separately or conjointly, whereas, the new substance was soluble in dilute alcohol in the boiling state.

It could not have been urea, for urea is soluble in hot and cold alcohol and water, but the new principle was precipitated as its solution cooled. The same remark applies to the albuminate of soda, and from this substance it was still more unequivocally distinguished by numerous other properties which I shall subsequently detail.

Lastly, it could not have been the oleaginous matter, as that ingredient of the blood requires very strong and a hot alcohol for its solution, is fusible by heat, and soluble in cold sulphuric ether. The new principle is soluble in diluted alcohol, *infusible when heated* in the dry state, and *totally insoluble in sulphuric ether*, at any temperature.

The existence of a previously unknown principle in the specimen of blood then before me, having been thus unequivocally ascertained, several interesting questions immediately arose. Was this substance peculiar to blood in spleen disease, or common to that and the healthy fluid?—constituted the most essential and interesting inquiry. By the kindness of my friend, Mr. Twining, and with the opportunities I enjoyed as acting assistant-surgeon of his Majesty's 94th regiment, I was speedily enabled to ascertain, by numerous experiments, that the new principle is of universal occurrence, in health, in disease, in the Indian and European, and in all conditions of age and sex. Since my departure from Calcutta, I have further detected it in the cow, horse, goat, sheep, jackal, fox, and dog.

The average quantity in 1000 parts of blood was readily found by a repetition of the process which led to the discovery of the principle itself. It was thereby ascertained to vary in amount from 15 to 20 grains per 1000, thus exceeding considerably the amount of fibrine, and ranking next in proportion to the albumen.

Fifty grains were next subjected to special proximate analysis, in order to obtain a more accurate knowledge of its properties, and thus, if possible, to be enabled to name it correctly, with reference to its nature and composition. In the dry state it is opaque, pulverulent, of a reddish-brown colour, totally infusible by heat, leaving a very minute, earthy residuum when calcined on platinum, foil, or mica; insoluble in absolute alcohol or distilled water when cold, but soluble in dilute alcohol at the boiling point, (insoluble in ether, or the oils, fixed or essential,) and again deposited of a faint flesh colour on cooling; redissolved instantly by the addition of nitric acid, in the proportion of one drop to 1000 of the mixture, and the solution rendered turbid by ferro-prussiate of potassa, and tincture of galls; unaffected by currents of oxygen, hydrogen, nitrogen, sulphureted hydrogen, and carbonic acid gas.



To complete the history of this remarkable substance, a minute ultimate analysis is preremptorily required. I regret to say that I do not possess the necessary apparatus required; neither can I in this remote situation attempt the construction of one on which I could at all rely. In my journey here, my barometer and all my spare glass tubes were broken to pieces; I must, consequently, wait some more favourable opportunity of completing this branch of the inquiry. Meanwhile, without straying beyond established facts, and without far over-stepping the bounds of legitimate induction, we may endeavour to estimate the relations which exist between this substance and the other well-known animal ingredients of the blood.

In the first place, while it differs remarkably from the colouring matter, or *rubrine*, and from the *albumen*, we still find it participating in some of the properties of each, to a degree that establishes a certain affinity among the entire. While it differs from the rubrine in its relations to heat and its solubility in dilute alcohol, it nevertheless resembles it strongly in the most important and peculiar of its properties, namely, *the red colour*. Again, while the new substance differs widely from albumen, also in the mode in which they are affected by heat and alcohol, it still exhibits the same reactions with tincture of galls, ferro-cyanate of potassa, some of the acids, the alkalies, and with the gases I have above enumerated. Thus, while on the one side we establish the essential differences between the three substances, we trace their analogies on the other. We find a resemblance sufficiently strong to warrant us in deeming it highly probable, that in the wondrous laboratory of the living frame, this new principle exemplifies the concluding stage in the hitherto obscure process of the complete reddening of the blood. An additional and important step, it is highly probable, is thus added to our knowledge of the various changes which occur, from the time that the digestive transmutation of aliment commences, until the change is consummated by the formation of blood. Dr. Prout first showed us the imperfectly formed, or "incipient" albumen in the contents of the duodenum and jejunum intestines. The researches of other chemists pointed it out when fully formed in the thoracic ducts. The colouring matter, too, we may trace in the pink coagulum of the chyle, but it is still imperfect, still requires elaboration in the lungs, and, in point of fact, as I have ascertained by experiment on the dog, is chiefly composed of the new principle, to which I have had the honour of drawing the attention of the society.

We have thus, I conceive, acquired a sufficient amount of evidence to warrant the application of the term *sub-rubrine* to the principle now pointed out. Additional researches will, it is to be hoped, increase our knowledge of its properties, and possibly may derange some of the preceding conclusions; nevertheless, the denomination I propose will continue to be appropriate, since it necessarily involves no theory or conjecture, and rests chiefly on the physical fact of the modified red colour of the principle itself.—*The Lancet, February 7th, 1835.*

4. *Experiments relative to the Sense of Taste.* By Mr. NOBLE.—Mrs. Williams, about fifty years of age, 22, Pot street, Ancotas, Manchester, states, that some years ago she had two or three leeches applied to the left temple, near the outer canthus of the left eye, when, in a day or two afterwards, violent neuralgic pains ensued upon the left half of the face; these gradually subsided, and left almost complete amaurosis, and paralysis of sensation on the affected side of the head and face, as supplied by the branches of the fifth nerve; the function of voluntary motion remaining perfect as before. In this state she continues at the present time.

There is a peculiarity in this case to which I would particularly allude, in the fact of the sense of taste being unimpaired in the left half of the tongue, whilst its common sensibility is all but destroyed. The impressions of common tact, of pain, of the rough or the smooth, of heat or of cold, she is all but insensible; whilst to impressions of the bitter or the sweet, or any other modification of



the sense of taste, she is as acutely alive on the affected as on the sound half of the tongue. For example, if she be blindfolded, and directed to protrude the tongue, and the blade of a knife be placed upon the lingual surface transversely, she feels it only on the sound side, or at least her perception on the affected side is of the most obscure description, being, as she words it, a "numb, deaf feel." A portion of the mucous membrane on the affected side was lacerated with a point of a lancet, and she felt not the slightest pain—all, in her own words, being "numb and dead." The blade of a knife was introduced into hot water, and then placed transversely upon the tongue: she had only the perception of heat on the sound side. Small portions of common salt were sprinkled upon the affected side, and similar quantities of sugar on the other: she was insensible to the fall of the particles on the affected side. In a few seconds, however, when the sapid particles had partially dissolved, she was as acutely alive to the saline taste on the affected half as to the saccharine on the other; and the sensation of taste was excited at the same distance of time from the first contact of the sapid ingredient on both sides of the tongue. These experiments were modified in a variety of ways, the woman always being blindfolded, and in ignorance of the exact procedure, or its intention; and in whatever way the trial was varied, it was obvious that whilst the common sensation of one-half of the tongue was in effect annihilated, the sense of taste was unimpaired.

Does not the above case decide that taste is something more than a modification of common sensation? And if so, must it not, as in the case of smell, be dependent upon a specific nervous supply? And as a variety of facts show clearly that the "true gustatory nerve" conveys both common and specific sensibility to the tongue, must it not be a compound nerve?

What is the function of the nerve from Meckel's ganglion, called *chorda tympani*, which joins the branch that goes to the tongue from the Gasserian ganglion?—of which nerve that distinguished neurologist, Mr. Swan, observes, "it is supposed that the cord of the tympanum does not unite with the gustatory, but passes in mere contact with this; but if a preparation that has been kept in spirits be carefully examined with a magnifying glass, and at the same time an attempt be made to disunite these nerves, it will be found that the filaments of both are intermixed, and cannot be separated without violence."

And in conclusion,—what is the function of the branches from Meckel's ganglion distributed to the soft palate?—*Lond. Med. Gaz. November, 1834.*

5. *Influence of the Nerves in the Development of the Muscular System.* By Prof. ALESSANDRINI.—In the annals of natural history for 1829, M. Alessandrini published a description of a foetal calf in which a portion of the spinal marrow was wanting, and observed the singular anomaly that all that part of the system of voluntary muscles which receive their nerves from the spinal marrow, was also absent.

The vertebral column and spinal marrow terminated suddenly at the tenth dorsal vertebra, and a portion of the trunk, with the posterior extremities, exhibited no trace of muscles: but the parts, intimately composed of cellular tissue, appeared little different from their natural condition; and the integuments, the adipose tissue, the vascular system, and the aponeuroses and osseous system of the same extremities, did not seem to have been influenced, either in regard to development or structure, by the total absence of spinal nerves.

The connexion between nervous and muscular development, is a question that has long occupied the attention of physiologists, but one fact, however striking, is not sufficient to inspire much confidence in any hypothesis on a subject so interesting and so much controverted. A new opportunity soon presented itself to the professor, of judging the question with greater accuracy: he accidentally became possessed of the foetus of a sow arrived at the full term of gestation, and killed at the public market of Bologna. The monster resembled perfectly the one just alluded to. A great portion of the vertebral



column was wanting, and the spinal marrow terminated abruptly at the level of the fifth dorsal nerve; the head, neck, and anterior region of the chest, with the thoracic extremities, were furnished with well-developed muscles; but the posterior part of the thorax and the whole abdomen had the appearance of a large ovoid bag, with aponeurotic parietes, supported inferiorly on the ossa innominata, on which the posterior limbs were fixed. All trace of muscular structure began suddenly to cease at the points where the osseous parietes of the chest, the vertebral column, and the spinal marrow, were interrupted. Among the muscles which in ordinary circumstances compose the abdominal parietes, there only existed portions of those which arise high up from the thorax, and receives nervous filaments from the first dorsal nerves. A great portion of the thoracic parietes, all the abdominal parietes, and the posterior limbs, being deprived of spinal nerves and voluntary muscles, were merely composed of those parts essentially formed of cellular tissue. The viscera of the thorax and abdomen, where the branches of the vagus and sympathetic nerves could be most easily distinguished, were in the natural state.

The strata of muscular fibres were very visible in the whole length of the intestinal canal, and also on the urinary bladder, because those parts, removed from the empire of the will, are developed under the influence of the great sympathetic.

The second case of monstrosity was still more interesting than the former, because a small portion of the caudal vertebral column reappeared between the ossa innominata, and contained a slender cylinder of medullary matter, from which a few fine nervous filaments, detached, were distributed on some bundles of muscular fibres, representing the caudal muscles: thus the system of voluntary muscles reappeared with the imperfect development of nerves in the caudal vertebræ.

From the above cases of monstrosity the author derives the following corollaries regarding the regular formation and development of parts, and the influence of different systems on each other, with respect either to their mode of formation and growth, or their action and vital properties.—

1st. The nervous system contributes more than the vascular to the formation of the muscular fibre; the blood-vessels in two cases related, were regularly disposed in the posterior limbs, but wherever the nerves were wanting, the absence of muscular tissue was also recognised.

2d. The muscular fibre is formed, not only under the influence of the nerves of animal, but also of those of organic life.

3d. In both the monsters, those parts deprived of spinal nerves and voluntary muscles were not completely without traces of a nervous system; for large filaments of the great sympathetic followed the ramifications of the iliac arteries, and those portions of the abdominal vessels not usually supplied with nerves, were in the present case accompanied by numerous filaments.

4th. The absence of nervous substance in the vegetable kingdom brings with it a corresponding absence of muscular fibre, and the coëxistence of these two tissues constitutes the essential anatomical character by which animals are distinguished from plants.

6th. The presence, in the second monster, of a portion of spinal marrow totally distinct, and separated by a considerable distance from the rest, shows that the various sections, the different neuclei or centres of the cerebro-spinal axis, are formed and developed independently of one another.—*Bullettino di Bologna, Jan. 7, 1835.*

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#### PATHOLOGY.

6. *Curious Case in which Sand and Gravel Stones were found in the Trachea after Drowning.*—C. F. H. aged twenty-three, had been subject to epileptic fits since October, 1830, with intervals of a week or a fortnight. On the 5th of May, 1833, he was found dead in a rivulet; his face downwards; the head



covered with the water, which was not a foot deep, and which therefore did not cover more than half his body.

On examination of the corpse, the most remarkable thing found was a quantity of sand and gravel stones of various sizes, in the trachea, below its bifurcation into bronchi; the largest of these stones was square, weighed at least a drachm, was half an inch long and broad, and half a line in thickness. It is almost impossible to conceive how this stone, which resembled others on the bed of the rivulet, could have passed through the glottis. A great quantity of the sand filled the bronchi, and some of it was even found in the pulmonary vesicles: the whole quantity of sand found, weighed between three and four drachms.

This is an exceedingly rare case: Orfila mentions only one such out of fifty cases of drowning, (*Dict. de Med.* t. 20, p. 26.) The size of one of the stones, which exceeded the capacity of the glottis, proves that it could not have entered the trachea by a mere mechanical descent after death; but it renders it probable that it had been swallowed in the last moments of agony.—*Ryan's Med. and Surg. Journ. from Medicin. Correspondenz-Blatt.*

7. *Sudden Tumefaction of the Lips after Fright.*—M. DIEZ was called to Madame G. aged twenty-four years, of an hysterical habit of body. He found both lips, but especially the upper one, swollen and ready to burst. As this tumefaction extended to the gums and tongue, the patient could scarcely speak, and could only imbibe fluids. She complained of pricking pains, and sense of extreme tension in the affected parts. The swelling had risen in the space of five minutes, and was visibly on the increase. Besides, there was a copious flow of saliva; the respiration was short and quick; there was a sensation of sinking and fear at the chest; dry cough; shiverings; frequent and full pulse; head uneasy, though not aching; face red.

The cause of this disturbed state was a fright, induced by seeing a little girl, four years old, pass the blade of a penknife between its lips, without, however, wounding them. She said, that at the moment she experienced an excessively painful sensation in the lips, as if they had been wounded by some cutting instrument; and it appeared to her as if her circulation and respiration had been entirely suspended. Previously she was in comparatively good health.

Repeated applications of leeches, cooling lotions and aperients, reduced the swelling in four days, after it had extended to the eyelids; the cough, ptyalism, and difficult respiration, also ceased.—*Ibid.*

8. *Abdominal Abscess.*—M. BERARD has communicated the following singular observation to the Anatomical Society of Paris. The subject of it was a woman who had been seized with hypogastric pains after labour, leading to a suspicion of the existence of an abscess of the iliac fossa. The following was found on dissection. A large abscess commenced at the superior-posterior part of the left loin, between the colon and the abdominal parietes; this abscess had reached the hypogastric region, passing the iliac fossa, and the intestine being throughout situated outside of the peritoneum. An induration of the cellular tissue of the pelvis had stopt its progress just before the bladder; but the pus had made a passage towards the right iliac fossa, separating the peritoneum in the hypogastric region. From the right iliac region it had proceeded upwards along the median line as far as the umbilicus; there it had found a place immediately underneath the skin, had separated it all around the naval, the skin over which, however, was sound and adherent to the subjacent tissues. The progress of this abscess formed therefore, a curve with the concavity looking upwards, and had risen in the right loin to an elevation corresponding to that which it had attained in the posterior part of the left loin. At this latter point, the abscess communicated with the descending colon by a rounded aperture which, on the side of the abscess, was surmounted by a soft, circular puffiness.

M. Berard asks what could be the origin of this communication: is it a lumbar



abscess, that by the erosion of its parietes, had found a passage into the intestine? or is it an ulceration of the intestine that had implicated the cellular tissue, and then determined the formation of an abscess? The whole internal surface of the great intestine was hard, uneven, and ragged; its parietes were thickened throughout the whole circumference.

M. Tessier remarked that the supposition of a primitive abscess of the iliac fossa was precluded by the perfect soundness and vermilion colour of the iliac muscle, whereas in the abscess of that region it is considerably changed, softened, and as it were macerated in the pus.—*Archives Générales*.

9. *Acute Myelitis confined to the posterior half of the Spinal Marrow—general Opisthotonos*. By Dr. MARCO PAOLONI.—The following case, extracted from the *Bulletino delle Scienze Mediche della Societa Medica-chirurgica di Bologna*, for June, 1834, shows that general opisthotonis sometimes depends on inflammation of the posterior or cerebellic cords of the spinal marrow, the brain remaining unchanged.

A strong man in the flower of his age entered the hospital of St. Ursula, for a double hydrocele of the tunica vaginalis, consequent on a gonorrhœal orchitis. On the right side a palliative treatment was put in practice, and on the left, where the tumour was of older date and larger, the radical cure was attempted. In doing this, besides an extensive incision of the tunica vaginalis, it was necessary to excise a portion of the membrane. No fever ensued for the two following days. On the third, however, an intense one sprung up, with lancinating pains of the wound, delirium, and distressing sensation along the vertebral column. The contra-stimulant method immediately employed subdued in some degree the fever, and the lancinating pains diminished. This amelioration was accompanied with the sloughing of an extensive gangrenous eschar that had invaded the cellular tissue around the testicle, the tunica vaginalis and internal surface of the scrotum.

On the seventh day after the operation, when the wound was kindly granulating, and the general inflammatory phenomena were almost entirely subdued, the patient became sensible of some difficulty in moving the jaw, and a slight stiffness of the posterior muscles of the throat, described by him as if a cord were drawing him backwards. The trismus became complete; the rigidity extended to the muscles of the trunk, which bent the body backwards, and as it proceeded to the legs, they also became in a state of forced extension, and even somewhat bent backwards. Deglutition was impossible; respiration difficult; the belly was meteorized; the bowels bound; the skin hot and covered with a copious viscid sweat; the pulse vibrating and feverish. Bleedings, which showed a buffy coat, repeated applications of leeches along the sides of the vertebral column, purgative clysters, and hot fomentations, all failed in warding off his death, which took place at the end of three days.

*Dissection, twenty-four hours after death*.—Except a slight venous injection, the meninges of the brain were sound. The brain, cerebellum, and medulla oblongata were also sound in all points. The whole posterior surface of the vertebral dura mater was of a dark red colour, particularly at the cervical and lumbar regions; this colour was altogether absent from the anterior surface. The arachnoid was strongly injected: a great quantity of serosity floated between these two membranes, especially at the points above-mentioned. After withdrawing the pia mater, the whole posterior surface of the spinal cord was seen to be palpably softened; in the cervical and lumbar regions it was almost diffuent. This softening was circumscribed in a very remarkable manner at the posterior part of the cord, while the whole of the anterior surface retained its consistence, colour, and other characters in a normal condition. A distinct line of demarcation existed between the diseased and healthy portions. The posterior roots of the spinal cord participated in the morbid changes.

In the genital organs all the constituents of the spermatic cord were found strongly adhering together, and the spermatic vessels were gorged with blood.



Great difficulty was experienced in separating the vas deferens from two nervous branches, which being of a deep red colour, that could not be removed by repeated washings, may be considered to have been inflamed. The strong adhesions of the spermatic cord about the inguinal ring prevented the possibility of tracing these two nerves into the abdomen. Neither of the testicles were altered in texture.

The thoracic and abdominal viscera were normal: only the lungs were slightly congested.

This case proves that an affection of the posterior cords of the spinal marrow produces forced extension of the whole body. The following case will prove that inflammation of the cerebral hemispheres, on the contrary, produces forced flexion of the body; and both cases tend to demonstrate the justness of Bellingeri's views on the "nervous antagonism."—*Ryan's London Med. and Surg. Journ.* May 23d, 1835.

10. *Meningitis of the Cerebral Hemispheres, with Emprosthotonos.* By Dr. FRANCIS MOROTTI.—Joseph Bianca, aged twelve years, and enjoying habitually good health, fell asleep, after hard labour, with his head bare and exposed to the heat of the noon-day sun. On awakening he felt himself unwell, and as he got daily worse, he entered, three days afterwards, the hospital of Vercelli. The symptoms then were—almost total blindness and deafness; continued coma, only interrupted by low feeble groans; countenance sunk; squinting; spasmodic closing of the eyelids of the right eye; the trunk of the body strongly bent forwards; the limbs bent, and when any attempt was made to extend them he disclosed the pain he experienced by groans; the pulse hard and small.

Notwithstanding copious bleedings and alvine evacuations the symptoms persisted all the following day and then became worse. In the evening he died in the midst of excruciating tortures.

*Dissection, twenty-four hours after death.*—Considerable injection of the cranial, dura, and pia mater; the sinuses gorged with blood containing a quantity of sero-purulent fluid, which was also abundant in the aufractuositities of the cortical and the base of the cerebral lobes. On cutting the white substance the blood-vessels were seen in a gorged state. Neither the cerebellum nor spinal cord were changed. The inflammation extended over the whole exterior surface of the cerebral lobes, but was more marked on the right side: it was this side that had been exposed to the sun while the boy was sleeping.—*Ibid.*

11. *Pus in the Centre of a Fibrinous Connexion.*—M. BRICHETEAU has exhibited to the Academy of Medicine of Paris an aneurismatic heart, in the right auricle of which there was a fibrinous tumour of the size of a nut, enclosing at its centre some well-formed pus. The fibrine which composed the tumour had the appearance of concentric layers, observed in old aneurisms.—*Rev. Méd.* Oct. 1835.

12. *Cases of Farcy in the Human Subject.* By M. VOGELI of Besançon.—**CASE I.** In 1817, M. P. pricked his left hand in performing certain operations on a farcied horse destined for the surgical instruction of the school. The wound was immediately washed and bound up. On the same day the arm began to swell, even as high as the axilla, and a red line could be traced along the inside of the arm and fore-arm. He was put under the care of Dr. Parrat, physician in ordinary to the school. A bubo formed in the axilla as large as a pullet's egg. It broke and resisted every means to heal it. This induced M. P. to petition for leave to visit his home, and withdraw himself from the injurious influence of the fogs that prevail at Lyons during the winter. After an absence of nearly a year he returned quite well.

**CASE II.** During the winter of 1828, M. Gardouneche, of Ussel, a strong and robust young man, twenty-one years of age, but much addicted to liquor,



pricked the hollow of his hand. The wound would not heal, and the arm enlarged as high as the axilla, and so continued for a considerable time; the ulcer in his hand slowly spreading. Other ulcers appeared on his knee, lips, and fauces. He returned home, and there died in September, 1829.

CASE III. About the same time M. M., of Nobs, accidentally inoculated himself while dissecting a farcied horse. The results were the same as in the first case.

CASE IV. Peter Couderq, of Concon, in the same class with myself, twenty-two years old, of very irritable temperament, of herculean stature, and enjoying perfect health, had the charge of a horse sadly farcied. As he was puncturing one of the farcy buds, on the 11th of December, 1829, the horse suddenly started. Couderq quickly drew back the bistoury, that he might not wound the animal, and, in so doing, pricked his left thumb. As the accidents above related had made us aware of the danger of these wounds, Couderq washed it with liquid ammonia in which chloride of lime had been dissolved. The wound was bandaged to preserve it from the air; and then experiencing no inconvenience, he thought all danger was past.

13th. He returned to the clinical school, with the management of which he was then charged. The ground was covered with ice, and Couderq going carelessly along, fell heavily. This caused some merriment among his class-fellows, which exasperated him, and being unable to combat, he used very angry language, and retired. Some hours afterwards he betook himself to his bed, complaining of a dreadful head-ache. On the morrow he said that he was very ill; and this drew from some of his companions expressions of surprise and ridicule. Looking at his stature and strength, they could not comprehend how a simple fall should have knocked him up. He felt no inconvenience from the wound, and he and his companions had ceased to think of it.

15th. He betook himself to the infirmary of the school, where I also was, confined by severe catarrh. He went to bed, and waited for the physician, who did not visit him until the evening. He used to be a great eater, but now the pain in his head deprived him of appetite. I will not speak of the care that was taken of him, which was very great, nor of the means that were resorted to; my purpose is to prove the possibility of the farcy of the horse being communicated to the human being. During the first days of his residence in the infirmary, however, no one dreamed of the inoculation of farcy: the object of the physician was to relieve the dreadful pain in his head, and he was immediately bled, and baths and sinapisms were applied to the feet. I undertook to be his nurse, and by the advice of the doctor applied leeches to the inside of his thighs, and placed cloths, wet with an anodyne decoction, on his forehead and his temples, but with no good effect. The least noise startled him; the light became insupportable; his countenance assumed a mingled expression of melancholy and suffering, occasionally becoming dark and ferocious. His thumb had now become inflamed, and there was considerable supuration from the wound.

18th. Fever, which left him but few moments of respite, now attacked him, and continued until the 23d, when he sank into a state of complete apathy, and was perfectly obedient to command.

23d and 24th. At night he became delirious, and talked continually of his farcied horse and its disease, which he described with singular exactness. This delirium, and the subject which occupied his mind, threw new and unexpected light on his case. The idea of farcy immediately presented itself to us.

24th. The delirium subsided, and at two P. M. he asked me for a mirror, and having attentively examined his face in it, he said "It is astonishing! I felt a ticking on my left jaw, as if some insect was crawling over it." During the day he frequently felt his jaw, with pleasure in his countenance. At night he was calm and slept a little.

25th. Six A. M. the delirium returned. The itching of the jaw was become



insupportable, and a slight redness appeared there. His hand was continually lifted to it. At nine it had become a large and hideous ulcer, bleeding, with edges reversed and prominent, irregular surface, and little portions of muscular fibre, which had been broken in the bursting of the tumour, were scattered over it. The suddenness of this farcy bud and abscess confirmed our fears, and so terrified the seven inhabitants of the infirmary, that five of them immediately quitted it. I alone remained, refusing to abandon my companion. The delirium presently ceased, and he then complained of pains all over him. Other buds appeared on the eyelids, armpits, elbows, and back of the hands. The delirium returned at night, and only rarely ceased afterwards. The farcy buds swelled and closed the eyelids; they were about a line in diameter; on other parts twice or four times as large, all prominent in the centre and surrounded by a large red areola; they all quickly suppurated, and discharged a white sanious or purulent fetid matter.

26th. The arm, fore-arm, lips, *alæ nasi*, inside of the mouth, neck, chest, groins, prepuce, glans inside and outside of thighs, knees, calves, and upper surface of the feet, were covered with irregularly scattered buttons, sometimes in groups, sometimes isolated, but in no place more distant than three-fourths of an inch from each other. During the night of the 26th and on the 27th these buttons became white in their centre; and some of them formed into abscesses, containing thick flocculent pus, mixed with slight *striae* of blood. The poor patient, in his delirium, spoke of nothing but his horse, and with even more exactness than at first. He seemed to suffer more from the tumours on the eyelids than from any of the others, for he imagined that they were effecting some strange change in him; he had occasionally harboured that idea from the very beginning. On the night of the 27th he fancied that he had returned to his native soil, and about seven in the morning my poor fellow-student ceased to live.

I continued to watch over him; and I do not know whether it was an illusion of my senses, or an actual fact, but more of the tumours seemed to whiten, and others increased in size for two hours after his death; and, after that, I observed many more of these buttons, on the back and loins and thighs, but they were much smaller than any of the others.

CASE V. M. G., a pupil from L'Ardiche, wounded himself in the fore-finger of the right hand, in July 1830, when practising some operations on a farcied horse. Disorders, but less serious than those of Cases I. and III., followed. In August I lost sight of him; but I met with him in January, 1831, still in the infirmary, and in June, 1833, with the wound in his finger unhealed.

I do not know whether these facts are conclusive, but, at least, they are true; and the whole of the fourth case passed under my own observation.—*Veterenarian*, April, 1835.

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13. *Effect of Metallic Poisons on the Nervous System.* By WILLIAM STOKES, M. D. (Extract from his lectures on the theory and Practice of Medicine.)—There are certain metals which produce a powerful effect on the system, not by means of their corrosive properties, or by any direct action on the surface to which they are applied, but by a peculiar impression made upon the nervous system. Thus we find that mercury under certain circumstances will give rise to a very singular nervous disease; arsenic may be introduced into the system in such a way as to produce symptoms of nervous lesion; copper exercises a similar morbid influence, and the effects of lead are universally known. I do not mean to say that all these metals produce similar effects on the economy, for this is not the case, but there is one point of agreement between them, that all may produce symptoms which are called nervous or neurotic, and the diseases thus produced are classed among the neuroses. What is the meaning of the term neurosis? *A lesion of nervous function, more or less complete, occurring independently of any demonstrable organic change.* A neurosis, then, is an alteration in the functions of the nerves of organic and animal life, the nature of



which alteration we cannot understand, neither can it be demonstrated by the knife, nor by any examination of the state of the nervous tissue. In other words, a person will die with the symptoms of a neurosis, and when you come to examine the body, you will be unable to detect, in the minute ramifications of the nerves, the trunks, or the nervous centres, any appreciable lesion.

Diseases of this description have been divided into two classes,—active and passive neuroses. Active neuroses signify an increase or exaltation in the nervous function; passive neuroses are those in which there is a diminution of nervous energy; in both there is an absence of perceptible organic change. Take, for instance, an example from the nerves of animal life: a case of convulsions, independent of organic disease, is an example of the active neurosis; a case of paralysis, under similar circumstances, is an example of the passive. In the former, there is an exaltation of the nervous function, which is reflected upon the muscular system; in the latter, there is a diminution, producing a partial or total loss of the power of motion. It has been asserted by eminent physiologists, that passive neurosis can only exist in the organs of the life of relation, because the functions of the ganglionic system, which presides over organic life, cease only at the death of the individual. But there may be such a thing as semi-paralysis of the organs to which the ganglionic nerves are distributed, and hence we may have passive neuroses of the system of organic as well as of animal life. We get a good idea of these neurotic affections, by taking some of the most remarkable instances of this kind. Hydrophobia is a remarkable instance of excessive lesion of the nervous function without any known organic change; so is tetanus, and so are some forms of apoplexy, convulsions, and mania. Here we have violent irritations of the nervous system, in which there is no perceptible organic change, and where the only information we derive from pathological anatomy is of a negative character, telling us what these diseases are not, and leaving us, as to their actual nature, as much in the dark as ever. We find by dissection that hydrophobia and tetanus, and hysteria, and convulsions, and apoplexy, are not caused by inflammation of the brain or spinal marrow, and that is all. Hydrophobia, tetanus, convulsions, and hysteria, are instances of active neurosis; paralysis and apoplexy, without any known cerebral disease, are looked upon as examples of the passive kind, because they present either a diminution or abolition of the nervous function.

In the present state of medical science we must admit this division of the affections of the nervous system into diseases with and without perceptible organic lesion. I grant that it is very difficult, when we come to consider alterations in the functions of parts, to conceive how such changes could be effected without molecular alteration, or that the brain could be deranged in its functions, without some change of this kind. We are, however, compelled to consider such functional alterations of the nerves as changes with which we are unable to connect any process of hardening, or softening, or anemia, or congestion, or, in fact, any *known* pathological condition. Rostan is of opinion that all diseases are organic, that is to say, that they are produced by some molecular change, and this, he says, should be the basis of medicine. Unfortunately for medicine it has been given so many bases, that it sometimes knows not what leg to stand on.—*London Med. and Surg. Journ. May 17th, 1834.*

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14. *On Painters' Colic.* By WILLIAM STOKES, M. D.—Painters' colic is an example of a neurosis, that is to say, it is a lesion of the nervous function, unconnected with any known pathological alteration. It presents commonly two periods, the first exhibiting the phenomena of active, the second of passive, neurosis; or, in other words, the signs of exaltation of the nervous function precede those of depression. In the majority of cases, we find the first stage of this affection characterized by violent spasm, pain and convulsions, symptoms indicative of active nervous lesion, whereas in the second stage we have paralysis, the diagnostic mark of the passive kind. This is the order in which the phenomena of painters' colic are generally met with, but in some cases the



first stage is very imperfectly shadowed out, or even entirely wanting: the paralysis comes on in an insidious manner, and without being ushered in by any symptoms of exaltation of the nervous function.

In this country the most common victims to this disease are painters, who are much in the habit of working in white lead, and when you are connected with the management of any public medical institution, (as I hope you will all be,) you will often have to treat cases of this description. In Dublin and all large cities, it is an exceedingly common affection, and the patients are for the most part house-painters. Next to these, the persons who are most subject to it are plumbers, and those who are employed in the melting of lead.

When the poisonous particles of lead enter the system in a highly volatalized state, its morbid effects are more certain and extensive. Every house-painter will tell you that the kind of work which is most likely to produce a deleterious effect, is painting "the *dead white*," or, as it has been termed, *statuary white*. In doing this they use white lead combined with a large proportion of oil of turpentine, and, in order to produce the intended effect, they are in the habit of excluding the air as much as possible. By means of the turpentine and the warm temperature of a close room, the lead is volatilized, and in this state appears to have an extraordinary power of impregnating the system. Some of the very worst cases of painters' colic are produced in this way. Painting in the open air, even where the same preparation is employed, is comparatively harmless. A poor fellow, who was for a considerable time under my care, assured me that he had escaped for twenty years, and was convinced that he would have enjoyed a much longer immunity, had he not been put to work at the statuary white in a close room.

With respect to plumbers, it is now ascertained that this disease is of comparatively rare occurrence among them, and the reason of this is that they generally work in the open air, or in well ventilated apartments, and have now but little to do with the actual manufacture of lead. The kind of lead which they generally use, sheet and pipe lead, is furnished from the manufactories, and their occupation principally consists in the moulding and soldering of it. We very seldom now see a plumber labouring under colic.

Painters' colic may be observed under a great variety of forms, but for the convenience of studying the disease, we may divide these varieties into four classes. In the first we have the phenomena of simple colic, without any obvious or marked symptoms of bilious, gastric, or cerebral derangement. In the second variety, the disease assumes a more decided character; the colic is complicated with symptoms of fever of a gastric character, the pain in the belly is more acute, the constipation more obstinate, there is pain and difficulty in going to stool, nausea and vomiting, with occasional head-ache, dyspnœa, and sense of constriction about the præcordia, the belly is hard and retracted, and there is often pain in passing urine. In the third variety we have a more formidable array of symptoms. The functions of the brain and spinal marrow are deranged, there are wandering pains in the extremities, and the patient has frequent attacks of violent convulsions, resembling those of epilepsy. He also labours under the abdominal symptoms, but in this stage they are not so well marked, or so distinct as in the former; the lesions of the functions of the cerebro-spinal system begin now to exhibit a greater degree of preponderance, and claim the principal share of the attention of a symptomatologist. In the fourth variety there is paralysis without being preceded by the ordinary symptoms of abdominal or cerebral derangement. A medical friend of mine met with a case of this kind not long since. He was called to visit a child who had lost the use of his limbs. He went and found the child lying in bed perfectly quiet and easy, his intellect sound, and his spirits good, but labouring under complete paralysis of all his limbs. He inquired minutely into the history of the case, and made a most scrutinizing examination, but, from all he could see or learn, there was not the slightest ground to suspect disease of the brain or spinal cord. There had never been any symptoms of colic. He was puzzled with the case,



and tried one thing after another without benefit. At length he found out that the child's father was a painter by trade, and this led him to suspect that the symptoms might have some connexion with the poison of lead. He inquired, and was told by the mother, that a quantity of white paint had latterly been kept in the room, and that it was impossible to keep the child from it. He instantly had the paint removed, a free current of air admitted into the room, and by the use of purgatives, assisted by stimulating frictions, the child recovered.—*Ibid.*

15. *Symptoms of Lead Colic.* By WILLIAM STOKES, M. D.—The following is the order of symptoms generally observed in this disease. First, we have the precursory, denoted by pain and sensation of weight about the epigastrium, a weak, small pulse, general languor and weakness of the muscular system, want of appetite, cold, clammy skin, a tremulous and coated tongue. At this period there is sometimes diarrhœa. Then comes some exciting cause, exposure to cold or wet, excess in eating or drinking, and the disease sets in with more or less intensity. The patient is attacked with dreadful pain in the belly, which differs from the pain of inflammation in this, that, so far from being increased by pressure, it is in most cases relieved. In fact, so decided is the relief produced in this way, that there is a case on record in which the patient used to get the greatest ease by making one of his fellow-workmen stand upon his belly. This relief from pressure is very generally observed in colicky affections. Indeed, so general is it, that you will hear it frequently stated, that all cases of colic are relieved by pressure. This, however, is not invariably true; for I have seen cases where the patients could not bear pressure, and where it required a careful examination to distinguish the symptoms from those of inflammation. The pain is of a twisting kind, and felt about the umbilicus; and, in connexion with this, there is scanty urine, with more or less pain in passing it, obstinate constipation, and a tense, hard, retracted state of the belly, from the violent contraction of its muscles. The upper portion of the belly is sometimes more retracted than the lower, and the pulsations of the abdominal aorta are unusually distinct. The pain remits, and then becomes exacerbated, and the patient's countenance is expressive of acute suffering. In that form of the disease, where there is a complication of gastric or bilious symptoms, the patient has a semi-jaundiced look, a hot, moist skin, quick pulse, foul tongue, vomiting, hiccup, thirst, and epigastric tenderness.

In the third form, the chief force of the poison seems to be directed against the brain and spinal cord. There is vertigo, head-ache, stupor, and sometimes delirium; the patient has fits resembling those of epilepsy, but of longer duration, and violent convulsions, which sometimes continue with unabated intensity for twelve or even twenty-four hours. You will see those unfortunate creatures rolling and twisting in every form, sometimes doubled forwards, sometimes in a state of perfect opisthotonos, sometimes moving their limbs with the convulsive action of an epileptic, and foaming at the mouth. In addition to this, it is stated in the descriptions of this disease, that the patient loses his sight and becomes amaurotic; this I can confirm, for I have seen it more than once. It is a curious fact, too, that this blindness may come on before the other cerebral symptoms are developed. I recollect a case in which one of the first symptoms was blindness. The patient happened one evening to be indulging himself in whiskey punch, and was in a fair way of getting comfortably drunk, when, unfortunately, he found that all of a sudden he could see neither single nor double. He groped about in a very disconsolate state for his glass, but not finding it, and finding at the same time that he had lost his sight, he came to the hospital next morning, and shortly after his admission had a violent attack of convulsions. In cases of this kind I have generally found the pupils contracted. The patients toss about in bed, and are frequently found lying with their heads turned towards the foot of the bed. In some cases the breathing has been stertorous for a length of time, and the head



fixed, but the fingers and hands were flexible. I have seen cases in which the coma disappeared, and was followed by perfect blindness, lasting for two or three days, and then yielding to treatment.

These symptoms, striking and extraordinary as they are, do not seem to depend on the same state of the brain as cases of other diseases which are accompanied by sanguineous determination to that organ. The reason I make this assertion is, that many of the most violent nervous symptoms, including profound coma, subside under the use of a stimulant treatment. I think we may look upon these symptoms as similar to what are termed the symptoms of the *nervous apoplexy* of the ancients. A case of this kind which occurred in the Meath Hospital, is deserving of notice from the singular effect produced by treatment. The patient was in a state of profound coma, but the head was cool, and the arteries had no inordinate pulsation. If this was a case which presented the other symptoms of apoplexy, I would have prescribed bleeding, leeches, and cold applications. But I reasoned thus—Here is a case in which there is no evidence of the existence of inflammatory action. Opium has been found to relieve the abdominal symptoms of the disease,—may it not also relieve the cerebral? I ordered the patient to have a free dose of laudanum in camphor mixture. In a few hours he awoke, sat up in his bed, and next morning we found the symptoms of coma had completely disappeared. In two other cases of a similar kind, I have given opium and carbonate of ammonia with the most favourable result.

Dr. Clutterbuck mentions a peculiar symptom of this disease,—a kind of gouty inflammation attacking the great toe and followed by relief. I have not seen this. He states that the first joint of the great toe becomes red, hot, painful, and swollen, and that this remits by day and returns again at night. I have never seen this, nor have I ever seen those hard tubercles on the tendons in various parts of the body, which some authors have described.

After these symptoms we come to a new class, namely, the passive, characterized by paralysis of the muscles of animal life. It is remarkable that this paralysis seems to be principally a paralysis of motion, and that the power of sensation is seldom or never impaired. Generally speaking, the upper are more subject to paralysis than the lower extremities, and the right than the left arm. The latter circumstance is explained by assuming that the direct influence of the poison is more applied to the right arm. The paralysis of the arm is also frequently partial; the extensors lose their power, but the flexors do not in so great a degree. You will see a patient with his arm hanging by his side as if it were dead, but if you give him any thing to hold he can grasp it firmly. I have known painters continuing to work with a semi-paralysed arm. There is also an atrophied condition of the affected part, and this sometimes comes on with such rapidity, that, in the space of a week or ten days, the affected limb will be scarcely half as bulky as the corresponding one. We cannot account for this remarkable emaciation on the principle of loss of motion alone, for the short space of time in which it occurs in many instances is opposed to our entertaining such an opinion, and we must look for some other explanation. On this point science affords us no satisfactory information.—*Ibid.*

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16. *Causes of Painters' Colic.* By WILLIAM STOKES, M. D.—It was formerly supposed that all the preparations of lead, whether applied externally or used internally, were capable of producing colic, but this doctrine is at present considered very questionable. It was thought that metallic lead and all its salts were capable of causing the disease, but the morbid influence of this metal is now restricted by the best chemists and pathologists chiefly to its carbonate. This opinion I believe was first put forward by Dr. A. T. Thomson, the author of the London Dispensatory, in an interesting paper published by him in the tenth volume of the Medico-Chirurgical Transactions. The object of this paper is to prove that, of all the preparations of lead employed in pharmaceu-



tical and other purposes, the carbonate is that which is chiefly poisonous, and that the acetate and sub-acetate are comparatively harmless.

You have all, I am convinced, heard of cases of colic produced by the external use of the acetate of lead, and you will see some cases in proof of this opinion in Darwin's *Zoonomia* and other writings. There is a case on record of a woman, who having poulticed her ankle with this preparation, for the cure of a sprain, got colic and fell into a state of marasmus. I know of a deplorable case of burn affecting the abdominal integuments, which was treated with a solution of the acetate of lead. After using it for a fortnight or more, symptoms of colic came on, which not being recognised, the lead wash was continued, and the woman died in great agony. Dr. Thomson explains all this in a very satisfactory way. He shows that the solution of acetate of lead, when exposed to the air, attracts a quantity of carbonic acid, and is thus converted into a carbonate; of this I have very little doubt, for you will find that, by exposing a solution of the acetate of lead to the full influence of the air, the carbonate will be gradually deposited in the shape of a white powder. In the same way we can understand why it is that a solution of the acetate of lead, added to fermenting poultices, may be converted into a carbonate by the carbonic acid which is evolved. It is also a fact, that the acetate can be used internally for a long time without producing any thing like deleterious effects. I have given it for weeks together in full doses without its having been ever followed by colic, or any symptoms characteristic of the absorption of a poisonous matter. There are cases on record where as much as six drachms of this salt have been taken internally without producing any sensible morbid effect. As far as my experience goes, all those cases, in which the medical use of the acetate of lead has been attended with disagreeable symptoms, were cases in which it had been used as an external application. There were two cases in the Meath Hospital in which this medicine was used externally, in which colic and other indications of poisonous absorption took place, but not a single one in which its internal employment had been injurious. An excellent practical rule is laid down by Dr. Thomson, that, where you wish to employ the acetate of lead internally, you should take care to combine it with diluted acetic acid. Of the two combinations of lead with acetic acid, the sub-acetate is most liable to be decomposed and converted into a carbonate, so that, if you prevent this by mixing with the sub-acetate, or acetate, a certain quantity of distilled vinegar, there will be little or no chance of unpleasant symptoms being produced, even where the medicine is given in very considerable doses. We are, therefore, I think, justified in concluding that it is the carbonate of lead which is productive of poisonous effects, and that where bad symptoms have resulted from the use of the acetate it was in consequence of its being converted into a carbonate. I must, however, remark, that it has not been sufficiently proved as yet, that the use of the acetate is *perfectly safe*.—*Ibid.*

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17. *Lead Colic in Animals.* By WILLIAM STOKES, M. D.—It is an interesting fact, that many of the lower classes of animals are subject to this disease. Burserius was one of the first authors who directed the attention of medical men to this singular occurrence. I have got from my father an abstract of some observations made by him on this subject, during a visit to the lead hills in Scotland. He found that in the pastures among these hills, and in their immediate vicinity, cows, horses, sheep, dogs, and even poultry were subject to colic from lead. The symptoms, also, in these animals were observed by him to bear a very close analogy to those of the human subject. Thus, for instance, in cows there was obstinate constipation with suppression of urine, the poor animals seemed to suffer from violent twisting pain of the belly, and sometimes were thrown into a state of furious excitement, running wildly across the country. He learned also that during that period it was calculated that at least one-tenth of the cows in this situation had died of the effects of the poisonous ab-



sorption of lead. One of the most ordinary precursory symptoms was the animal becoming what is called hide-bound, this was followed by obstinate costiveness, and there was much apparent suffering, with panting, starting, and slavering from the mouth. Where the cerebral symptoms were most prominent the signs of abdominal irritation were by no means distinct, and this, as I have remarked, is the case in the human subject. In some, who had the head affected and ran wildly through the country, the secretion of milk was stopped, and this accords too with the effect of lead on the human female. Another remarkable circumstance is, that animals, living in the vicinity of these lead hills, have exceedingly difficult labours. Sheep are subject to epileptic convulsions and paralysis; dogs have the head principally affected, they run across the country slavering at the mouth, as if in a state of hydrophobia, but they do not bite, and are in all respects perfectly harmless. In barn-door fowl the generative function was injured, and the hens reared or brought there, ceased to lay eggs.

There is one fact mentioned in these observations, which tends to confirm the opinion of Dr. A. T. Thompson, that the poisonous effects of lead are produced chiefly by the carbonate. A distance of a very few miles from the valley renders animals quite free from any liability to the disease, but if they should happen to stray into the immediate neighbourhood, and particularly into a portion of low ground, flooded during the winter months by a river, which runs along the valley from the mines, and which, in all probability, leaves behind an efflorescence of the carbonate of lead, they are very liable to be affected with colic. It is said, also, that the poison is produced by the volatilization of lead in the smelting houses, the vapours of which are carried down the valley and through the neighbouring parts. Be this as it may, the Gaelic name of the valley signifies, the *poisonous vale*, and, as it is very probable that this name had been given in consequence of the deleterious qualities of the place long before the establishment of lead works, it tends strongly to favour the opinion that it is the water which contains the poison.

The mode of cure employed by the shepherds in this place is to give strong purgative injections, and remove the cattle from the influence of the poison, by sending them to new and healthy pastures. In this way they frequently recover, and if we look to the cause of the disease, its symptoms, or mode of cure, we shall observe a striking analogy between it and the colic from lead in the human subject.—*Ibid.*

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18. *Pathology of Painters' Colic.* By WILLIAM STOKES, M. D.—The old pathologists maintained, that spasm of the intestines was the principal cause of the disease, and attributed the symptoms to their contraction. This opinion appears to have some foundation, when we consider the violent symptoms of colic which accompany this affection. Dubois de Rochford has mentioned, that in such cases he has found intussusception of the intestines. De Haen says, that contractions of the colon are very common; and several authors make the same assertion. The results of more modern observation, however, are against these opinions. I have told you already, that, in consequence of this disease seldom or never proving fatal, there is a degree of doubt attached to its pathology; but it is an interesting fact, that where death, from other causes, has occurred during the existence of painters' colic, the digestive tube has been found either in its healthy state, or with a few detached spots of vascularity, without any decided inflammatory character, and totally insufficient to account for the symptoms. This, which is all that pathological anatomy reveals, may be considered as purely accidental, and only of occasional occurrence, so that we are compelled to look upon the disease as one in which there is great lesion of function without any organic alteration.

In the hospital of La Charité, at Paris, a vast number of cases of painters' colic have been treated. In the space of eight years, five hundred cases of this description have been admitted; out of these, five died while labouring under



the disease; and the following is an abstract of the appearances observed on dissection. In the first case, there was rupture of an aneurism of the abdominal aorta, and the patient sank from loss of blood. On examination, the digestive tube was found in the natural and healthy condition—there was neither *vascularity* nor *contractions*. The subject of the second case died of apoplexy. The whole intestinal canal was found healthy, and, contrary to the doctrines of the school of Broussais, there was neither congestion nor vascularity. In the third case, the patient had fits of an epileptic character, in one of which he expired. The colon exhibited a slight degree of redness, but quite insufficient to explain the symptoms during life. In the fourth, the cause of death was the same, and, on dissection, the tube was found healthy. Another patient, after recovering from the symptoms of painters' colic, got a sudden attack of asphyxia and died. His body was examined, but there was no trace of disease in the colon or any other part of the intestinal canal. Here we have five cases in which there was either no disease at all in the digestive tube, or, if there was any, the amount was quite insufficient to account for the symptoms. Louis, in a memoir which he has published, on sudden and unexpected deaths, gives a case of this disease where death occurred suddenly on the eighth day. The intestines were found to be in a healthy condition. Martinet gives two cases of persons who died of the cerebral symptoms while labouring under this disease: here, also, the tube was in the normal state. Thus we have eight cases with dissections detailed by various authors, all men of high professional celebrity, having no theory to support, and all agreeing in the statement, that there is little or no appreciable lesion of the digestive tube; that in the majority of cases it is in a state of health; that no contraction exists; and that such morbid appearances as have been found must be looked on as accidental.

There is one interesting circumstance in these cases which deserves to be noticed. With the exception of the first and fifth cases, all the patients presented that form of the disease in which the functions of the brain are decidedly injured. Here it seems probable that the cause of death was excessive irritation of the nervous system. Now, in the observations I made on the cases, which were treated at the Meath Hospital, you will recollect I stated, that where the cerebral symptoms were predominant the abdominal were more or less indistinct and latent, and that the cause of indistinctness, or even total absence, of these might be owing to the force of the disease being thrown upon the brain and spinal cord. Such was the case in the instances above recited, and such we have also seen to be the result in the case of those animals of an inferior order, that have been exposed to the poison of lead. How far the predominance of cerebral excitement may explain the want of appearances of disease in the digestive tube may be a subject of consideration.

What is the state of science with respect to the brain and spinal marrow? Allow me here to call your recollection to the symptoms of functional derangement of the nervous centres, the coma, the violent convulsions, the amaurosis, the deafness, the delirium, the paralysis. All these are violent symptoms, and you would naturally expect to find them connected with some sensible alteration, some congestion, or inflammation, or ramollissement. But nothing of this kind can be discovered. In all the cases, where death occurred under such circumstances, at La Charité, with the exception of some slight appearances of cerebral lesion in the second, there was no perceptible disease in the brain, or spinal cord. The membranes and substance of the brain presented their normal condition; there was little or no fluid in the ventricles; the spinal cord was healthy and natural in consistence and colour, and there was no effusion into its sheath. All these circumstances led to the conclusion that painters' colic is essentially a neurosis. Observe, too, how interesting it is to connect the circumstance of the absence of organic change, with the singular fact which I mentioned in my last lecture, that the comatose symptoms of this affection may be treated with stimulants and opiates. Where we have coma with congestion of the brain, opium has the effect of increasing the symptoms; here it was found



to have a contrary effect. So that our experience and the results of pathological anatomy, as far as they go, appear to square exactly. We see, then, that painters' colic is not inflammation of the intestines, or of the brain, or of the spinal cord, and this information, though of a negative character, possesses considerable value in a practical point of view. I do not know any case of what have been termed neuroses, in which the bearings of pathological research on practice are so extensive and so satisfactory.—*Ibid.*

19. *On Diseases of the Nervous System.* By WILLIAM STOKES, M. D.—On the very threshold of the consideration of diseases of the nervous system we have to encounter several difficulties, some depending upon the great obscurity of the symptoms, some upon the want of correspondence between the symptoms and known organic changes, and some upon the necessarily imperfect nature of our classification of nervous affections. Many persons are in the habit of taking a limited view of the nervous system. They suppose, that, when we speak of its diseases, we merely allude to affections of the brain and spinal cord, but the truth is, that the nervous system, so far as regards organization, is universal; and there is evidence to show that, even in parts and tissues which present no appearance of nerves, or nervous communication, there resides a nervous power, either inherent in their organization, or derived from external sources, and by the latter mode, of *nervous irradiation from surrounding tissues*, has the sensibility of serous membranes been supposed capable of explanation. But there can be little doubt, that even these tissues present nervous expansions, though of an infinite delicacy. They are, we know, supplied with white vessels, and doubtless have nerves corresponding to their vessels in size and function,—nerves, insensible to us in health, but, when inflammation elevates the organ in the scale, capable of transmitting the most exquisite pain to the centre of perception. It seems, also, to be highly probable, that nervous disease may commence not only in an affection of the brain or spinal marrow, but also in a similar condition of any part of the system. Again, if we admit the nervous system to be the governing and directing portion of the whole body, it is likely that some modification of that government *precedes* the alterations which take place in the circulatory and nutritive functions of other parts. Thus, in all diseases it may be laid down as a general rule, that there is an affection of the nervous system, either local or general; or, in other words, that there is no disease which we could name, which does not present signs of an affection of the nervous system, either *quoad* the suffering organ itself, or of an affection more general and diffused. If we take, for instance, a case of gastritis, or hepatitis, we find a lesion of function in the nerves of the respective organs, which, in certain cases, seems local, but if the inflammation be intense and the fever high, we have superadded to this a sympathetic affection of the brain, or spinal cord. The same thing applies to all forms of local disease, for in all there is an affection of the nerves, either confined to the suffering organ, or extending to the whole system.

In reviewing the phenomena of nervous diseases we find them presenting several varieties depending upon certain circumstances. In the first place, they vary according to the seat of the disease. We find that the signs and symptoms of affections of the cerebro-spinal system differ very considerably from those which characterize diseases of the sympathetic nerves. Again, if we take any part of the nervous system and examine its diseases, we find that here also there is a source of variation connected with the peculiar part affected. Thus, if we take the cerebro-spinal system we find that disease of one part of it differs most essentially in symptoms from disease of another; we may have enormous and fatal disease of the spine without the slightest injury of the intellectual powers, but we seldom have disease of the brain, particularly of the surface, without a more or less appreciable lesion of the phenomena of the mind. To follow up this point, suppose we take the diseases of the brain itself as compared with each other; we find that their symptoms vary according to the



locality, so that whether we look to physiology or pathology we must consider the brain as consisting of several distinct parts, and not as an inseparable whole. It is admitted by many writers of high authority, that there is a difference between the symptoms of disease affecting the periphery, and disease affecting the central parts of the brain; and there is reason to believe, that we may be able in many cases to diagnosticate affections not only of the centre and periphery of the cerebrum, but even of other parts of the organ.

The same variety occurs with respect to the effects of diseases of the nervous centres. In some instances we have, as the result of disease of the brain, a loss of muscular power or of sensation, in different parts of the body, sometimes affecting the face, sometimes one side, or even both; and these paralysis may be single or variously combined. It appears, then, that the component parts of the nervous system, by being to a certain extent separate and distinct, furnish a very extensive source of variety in the phenomena of nervous affections.

Lastly, we have the varieties which depend upon the nature of the lesion. We generally observe an obvious difference between cases of nervous disease, accompanied by some *known change* in the injured part, and cases in which no such change can be demonstrated. Thus, for instance, we know the symptoms of apoplexy, and that, in the majority of cases, it is a disease connected with some perceptible change in the circulation of the brain, as excessive distention of its vessels, or an effusion of blood on its surface, or into its substance. We also have some idea of the nature of inflammation of the brain, we know that its substance becomes at first red, then begins to soften, and finally is converted into a pulpy mass. Now, there are a number of symptoms, which are so often and so constantly connected with peculiar organic changes, that the symptoms being known, we can make a tolerably correct guess at the nature of the alteration, or vice versa.

On the other hand, however, we have a large and important catalogue of nervous affections, in which the symptoms give but very unsatisfactory information as to the real nature of the disease, and to the elucidation of which the painful and long-continued investigations of the pathological anatomist have hitherto been directed in vain. Of the actual nature of a numerous, complex, and interesting class of diseases—the *neuroses*, we know nothing. All we can say of them is, that they are examples of lesions of function in various parts of the nervous system, presenting no trace of structural alteration *appreciable by our senses*. It is a startling fact, and one which must be a source of gloomy reflection to the pathologist, that many of the diseases of the nervous system, which present the most violent symptoms, are those in which there is the least perceptible organic alteration. Every man who has seen a case of hydrophobia, or tetanus, or mania, or epilepsy, has witnessed a train of extraordinary and horrible symptoms, infinitely worse than those which are seen to accompany even great organic alterations of the brain.

Here then is a singular fact,—that there is a part of the system presenting a series of diseases under this extraordinary law, that the most violent and frequently fatal symptoms are accompanied by the least perceptible organic alteration. Now what is the nature of these neuroses? To give you a familiar illustration, let us take a case of tetanus or hydrophobia as an example. Here we have a train of symptoms exhibiting the most frightful irritation of the nervous system, and yet, when we come after death to examine with eager curiosity the cause of all these appalling phenomena, what do we find?—Nothing. There is no unequivocal, no constant, no prominent alteration of any part of the nervous system, to throw light upon the obscurity of our opinions, and enable us to fix the nature or locality of the disease. We lay aside the knife in despair, and bitter indeed is the consciousness of our ignorance.

Two opinions have been entertained by pathologists with respect to those singular affections:—one, that they are examples of some peculiar modification of the nervous influence, *independent of any organic change*. In other words, the pathologists who entertain this opinion hold, that the principle of life may



be altered in its phenomena, and admit of modifications, independent of any molecular change. The supporters of this doctrine reason thus:—In the phenomena of neuroses we have a train of extraordinary and violent symptoms unconnected with organic change. Now, it is quite unphilosophical to say that there is organic change when we cannot see or demonstrate it; and, on the other hand, it is not absurd to suppose that we may have lesions or peculiar modifications of the nervous principle without any organic alteration. The other opinion is, that in the neuroses there is some organic change, the nature of which cannot be ascertained, in consequence of our limited powers of detecting elementary changes. In whatever light we view this question, it appears to be surrounded with difficulties. No one can deny that neuroses are very different from organic diseases of parts. If we compare them with that class which is most familiar to us,—the inflammatory affections, we find a remarkable difference. In the first place, the neuroses may be brought on by causes not reckoned among those commonly capable of exciting inflammation. In the next place, their invasion is sudden, and their progress rapid; they arrive at their acme in a very short period of time, and subside rapidly. These are characters which do not belong to the ordinary forms of organic disease. Again, we often observe the utmost intensity of nervous pain without the co-existence of swelling, redness, or heat of the part affected. We find, too, that they are not to be subdued by the antiphlogistic plan: on the contrary, several of them are either relieved or cured by an exactly opposite line of practice; and many cases which would appear to demand the lancet are known by long experience to be most benefited by stimulants. Lastly, the most accurate and well-conducted investigations of pathological anatomy have failed in demonstrating the slightest organic change in these cases,—at least, where changes are found, these are *neither constant, competent, nor commensurate with symptoms*; so that whether we compare the information we derive from symptoms, or the result of pathological anatomy, we find a great difference between neuroses and organic diseases. It may be said, that though they are not inflammatory affections, they have some resemblance to them. This, however, is only a gratuitous supposition; for even in the very worst cases they present nothing analagous to the results of inflammation, and the brain and spinal cord are as free from perceptible organic change in the majority of cases of fatal tetanus and hydrophobia, as they would be in nervous affections of a slight and transient character.

You must have been already convinced, gentlemen, that it is difficult to form any clear or definite notion of the nature of neuroses;—indeed the only thing we can say of them, is what they are not. When we reflect on nervous phenomena, and consider how occult, how mysterious the properties of those organs which give rise to them are, we are struck with astonishment at the discrepancy between cause and effect. No medical man has ever witnessed a case of confirmed tetanus or hydrophobia, without being oppressed with a conviction of the imperfect and limited state of our knowledge of nervous disease.

It may be very possible, that in these neuroses the change, though so slight as to escape our means of detection, does absolutely occur, and yet such is the nature of nervous phenomena, that we must admit that great and extraordinary effects are produced by very slight causes. Do we see any thing like this in nature? any remarkable alterations in properties depending upon apparently slight causes? We do; we see extraordinary changes taking place in the characters of various inorganic substances, (to which I need not particularly allude,) and there is no reason why the same thing should not occur in organic structures. On considering the doctrine of Isomerism, I should be inclined to think that it throws some light on this obscure subject. In chemistry, it is a well-known though singular law, that the properties of two bodies may be essentially different at the same time that their respective component elements are, as far as our knowledge goes, identically the same; and the change, whatever it may be, appears to result, not from the abstraction or removal of any of the



component atoms, but from their peculiar juxta-position. Now, it being admitted, in chemistry, that many bodies having the same constitution possess totally different properties; and this difference being explained by the different position of their elements, it does not seem strange if the same thing should take place in the phenomena of organized beings; and if this be the case, we have a key towards elucidating the nature of these neuroses, and can conceive how an analagous change, a difference in the arrangement of the molecules of the component parts of the nerves, or their centres, may produce new modifications of their properties, without making any distinct change in their nature, or adding or abstracting a single organic molecule. I am much inclined to adopt the opinion of those who think, that in the neuroses a peculiar organic change actually takes place, though we cannot demonstrate its existence, because, to reason on the phenomena of animal life independently of organization is to plunge blindly into hypothesis, and retrace the errors of an antiquated and exploded school.—*Ibid*, June 14th, 1834.

20. *Local Inflammations of the Brain.* By WILLIAM STOKES, M. D.—In taking up the subject of cerebral inflammation, I beg leave to observe, *in limine*, that the brain may be attacked by general or local inflammation; and further, that it may, as stated in books, be inflamed in its membranes or in its substance, or in both together. A great deal has been written to show that we can distinguish during life between inflammation of the substance and of the membranes of the brain. On this point, I believe, we may come to this conclusion,—that inflammation of the membranes of the brain, or arachnitis, may be distinguished from some cases of local inflammation of the cerebral substance, but that it cannot, in the present state of our knowledge, be distinguished from *general* inflammation of the brain. We can, in most instances, make a distinction between local disease of the brain and arachnitis; but when the whole substance of that organ is affected, our means of diagnosis fail. This, however, is not so much to be regretted, as the distinction is of very little consequence so far as treatment is concerned. Here we arrive at the knowledge of a principle highly consolatory in the practice of medicine, namely, that in many acute cases where the diagnosis between two diseases of neighbouring parts is difficult or impossible, it is also, so far as regards immediate treatment, unnecessary.

If we inquire what are the symptoms of membranous inflammation of the brain, as laid down in books, we shall find them to be the following:—pain, delirium, convulsions, alteration of sensibility, and coma. These are the symptoms which are generally given as characteristic of arachnitis; and it is quite true that they are observed in many cases of the kind. But the person must be dull indeed who thinks that such symptoms imply nothing more than an inflammatory affection of the membranes of the brain. Take for instance one of the most prominent symptoms—delirium; what does this imply? that the portion of the brain which discharges the functions of intelligence or mind has been injured, and is rendered incapable of performing its office. No one will venture to assert that the membranes of the brain are the organs of thought, and that the delirium proceeds from *their* morbid condition; such a notion as this could not be entertained for a moment. What then are we to suppose? One of these two things—either that there must be inflammation of the substance as well as of the membranes, or that the substance of the brain must be affected in a neurotic manner without any actual inflammation. As far as delirium is concerned, it appears to me to be quite impossible to distinguish between inflammation of the brain generally, and of its membranes. The same rule applies to the other symptoms, convulsions, alteration of sensibility, and coma. I repeat, that all we can say on this subject is, that in such cases there is either inflammation of the substance as well as the membranes of the brain, or that, with the membranous inflammation, there is a neurotic condition of the substance of the brain. Yet who, in such cases, can affirm with certainty that the symptoms of derangement of the substance of the brain are merely neurotic, when inflamma-



tion is admitted to exist within the cranium, and when we know that the two inflammations commonly coëxist?

The fact of delirium occurring so frequently in inflammation of the membranes of the brain, is of considerable importance, as showing, not that membranes of the brain have any thing to do with intelligence, but as supporting the opinions of those who believe the periphery of the brain to be the seat of the intellectual faculties, and here is a fact which, as far as it goes, is in favour of the doctrines of phrenology. If we compare those cases of cerebral disease in which there is delirium, with those in which it does not occur, we shall find that it is most common in cases where disease attacks the periphery of the brain, as in arachnitis. The cases in which we observe great lesions of the brain without delirium, are generally cases of deep-seated inflammation of a local nature, or inflammation of those portions of the brain which the phrenologists consider not to be subservient to the production of mental phenomena. This fact, also, would seem to confirm the truth of the opinion of the difference in function between the medullary and cortical parts of the brain. It is supposed that the cortical part of the brain is the organ of intelligence, while the medullary portion performs a different function. It is, however, a curious fact that in delirium the inflammation is generally confined to the surface of the brain, and that in cases of deep-seated inflammation, the most important symptoms are those which are derived from the sympathetic affections of the muscular system.

Partial encephalitis may be either primary or secondary. An example of the latter is that inflammation of the substance of the brain which supervenes on apoplectic effusion, tumours, or cancer. What we generally observe in a case of this kind, is more an alteration in the functions of the muscular system, and less of the intellect. This alteration consists at first in an apparent increase of innervation in certain muscles of the body, and we generally find that one of the earliest symptoms of local encephalitis is the occurrence of pain in some of the muscles of the extremities. This is a curious fact, but one which is well established. In partial encephalitis there is often but little, or even no pain in the head, and the only warning we have of the approach of cerebral disease is the occurrence of pain in the extremities, followed by rigidity. Here are the two most prominent symptoms of the disease, pain in the muscles of the extremities, and then rigidity. Further, we have alternate spasms and relaxations of the muscles, in which, however, the power of the flexor muscles ultimately prevails, so that, if the disease be in the fore-arm, it may become permanently flexed on the arm, and the contraction of the fingers is sometimes so great as to drive the nails into the flesh. If it affects the leg, the heel may be pressed against the buttock sometimes so forcibly as to form a sore. As the case proceeds, the limb becomes more fixed in its new position, and every attempt to extend it causes pain. During the prevalence of these symptoms, it frequently happens that the patient does not feel pain in the head, or any diminution of intellectual power. The absence of pain in the part affected may be accounted for by recollecting that it is a general law that all inflammatory affections of deep-seated parts are, to a certain extent, of a comparatively painless character, and we may account for the non-existence of any lesion of the mind, by remembering that the disease is partial, and confined to a portion of the brain which appears to have little or no connexion with the intellectual function. In cases of this kind, when the muscles of the face are affected, the phenomena are interesting, from their being, (*in the first stage,*) the reverse of those of apoplexy. The face is drawn *from* the affected side, and the tongue pushed, by the opposite half of the genio-hyo-glossus muscle, *to* the affected side. This is the spastic stage, when complete disorganization has not yet occurred. But when this happens, then the phenomena of the face are like those of apoplexy, because the opposite muscles, which were in a spasmodic, are now in a paralyzed state, so that the face is drawn *to* the affected side, and the tongue pushed



from it, by the healthy action of muscles which are deprived of their antagonists.

I mentioned before, that delirium may not occur during the course of a partial encephalitis; and I gave as a reason for this the circumstance of the disease being of small extent, and confined to parts of the brain which do not discharge any of the functions of mind. Another explanation has been given, drawn from the consideration of the double nature of the brain. It is thought that where disease exists in one part of the brain, sanity may be still preserved in consequence of the healthy condition of the corresponding part, but where disease attacks both hemispheres together, as in a case of arachnitis, then there is a distinct lesion of the mental faculties.

The next stage of partial encephalitis is that in which the diseased portion of the brain breaks down, softens, and is converted into purulent matter. This stage is marked by a new train of symptoms. The first stage is characterized by pain occurring in the muscles of the face, or of the extremities of either side, and followed by great rigidity. The second stage is of a different character; the rigidity and spasm of the muscles diminish, and are succeeded by a paralytic and flaccid state of these organs. Voluntary motion on the affected side now becomes impossible, the organ on which it depends being destroyed. Now, let us, for sake of arrangement, call the first, or spastic condition, the convulsive paralysis, and the second, the paralysis with resolution. In the first, or convulsive stage, the brain is affected in the first degree; it is labouring under irritation or actual inflammation, and the disease still holds out a tolerably fair prospect of relief or cure. But in the second stage a cure is impossible, and hence it is a matter of the greatest importance to commence our operations at an early period, and, by having recourse to prompt and active treatment, give the patient every chance for a cure.

In the partial inflammation of the substance of the brain, sensation is variously altered. In some cases motion is lost, while sensation remains in tact; in others, sensation is partially or wholly abolished. In many instances the intellectual powers remain in all their integrity, or but little impaired, even after the occurrence of symptoms which mark the softening down of the substance of the brain, and its conversion into purulent matter. In a few there is, during the first stage of the disease, a slight alteration in the state of the intellect, marked by a certain degree of excitement or exaltation of the mental faculties, and this, on the supervention of the second stage, is exchanged for a state of depression. In fact, the morbid phenomena of the mind and of the muscular system, where they coëxist, appear to be regulated by the same laws. Where the disease is extensive, you can easily observe the injury of the mental faculties which accompanies the second stage; the patient answers slowly when questioned; his memory is weak, and his countenance has a stupid expression. But cases, even of extensive local suppuration, have been described by various authors, in which there was no lesion of the intellectual functions observed. These, however, generally admit of an explanation. Thus, in the cases recorded by Lallemand, the abscesses were situated in the cerebellum, pons Varolii, and other parts which are not supposed to have any connexion with the phenomena of mind. There are several well authenticated cases of extensive disease, not only of these parts, but even of the substance of the hemispheres, occurring without any appreciable lesion of the intellect. Thus, Mr. O'Halloran gives the case of a man, who, after an injury which destroyed a large portion of the frontal bone, had extensive suppuration of the brain, and lost an enormous quantity of the substance of one of the hemispheres, and yet preserved his intellect entire up to the moment of his dissolution. There is some difficulty in explaining this. It is an opinion entertained by some physiologists, that, when one hemisphere is diseased, its functions are discharged by the other, and that the brain being a double organ, disease of one side does not impair the functions of the other. But in answer to this, it may be urged, that there are many cases on record, in which disease of *a single hemisphere* has produced



great alterations of intellect. The supporters of the former opinion attempt to explain such cases in this way. They state, that in the majority of such cases there was, besides the local encephalitis, inflammation of the arachnoid membrane, and that the lesion of intellect was not so much the effect of local disease of the brain as the result of its complication with an arachnitis engaging the whole periphery of the organ. In the next place, they explain the fact of a *general* affection of the brain arising from *local* disease, as depending in most cases on the pressure which the tumefied state of the diseased portion necessarily makes on the sound hemisphere; and they state that this pressure must be very considerable, as the brain, being confined within a bony cavity, has no power of expanding itself. Now, it is a most interesting fact, in support of this view, that in a great number of the cases of loss of brain with preservation of intellect *all through the case*, an extensive opening existed in the bones of the skull, so as to permit of expansion in the diseased hemisphere, and prevent the pressure being exercised on the opposite one. This point appears to be borne out by the result of Mr. O'Halloran's cases, and by many other examples. Lastly, in every acute case of local inflammation of the brain, two causes having a tendency to produce symptoms exist. One of these is the local disease which gives rise to those phenomena of motion and sensation which we observe on the opposite side of the body; the other is the determination of blood to *the whole brain*, the result of the irritation of that disease.—“*Ubi stimulus ibi humorum affluxus.*”—*Ibid.*

21. *Preservation of Function with Organic Lesion of the Brain.* By WILLIAM STOKES, M. D.—The occurrence of great loss of cerebral substance with preservation of intellect, is a circumstance which some persons might quote against the opinion that the brain was the organ of intelligence; and I believe this fact has been laid hold of by the opponents of phrenology, and put forward as a powerful argument against the truth of its doctrines. Thus, for instance, in the case of Mr. O'Halloran's patient, who lost a large portion of one hemisphere, and yet, with all this mischief, the powers of the intellect remained unimpaired; it would not seem strange if a person should say, here is vast destruction of substance without any lesion of intelligence: how then can the brain be considered as the organ of thought? But let us look at this matter in its true point of view. In the first place, it is to be remembered that cases like this are rare,—that they are to be considered as the exception and not as the rule. I have already shown you, that it is a law in pathology that lesion of structure and lesion of function are not always commensurate. This law applies to the brain as well as to all the other organs. To say that the brain was not the organ of intelligence, because in cases of extensive cerebral disease that intelligence was preserved, is false reasoning. A man will digest with a cancerous stomach;—is it to be argued from this that the stomach is not the organ of digestion? I have seen the liver completely burrowed by abscesses, yet the gall-bladder was full of healthy bile. I have seen one lung completely obliterated, and yet the respirations only sixteen in the minute, and the face without lividity. What do these facts prove? Not that the health of organs is of no consequence, but that with great disease there may be little injury of function.

By reference to the original laws of organization, we may, (in some cases at least,) arrive at an explanation of this fact. You know that organs are primitively double; and we find, that though the fusion at the median line is produced by development, yet that the symmetrical halves still, to a certain degree, preserve their individuality. Thus we see how the laws of organization affect the phenomena of disease, and recognise a provision, acting from the first moment of existence, against the accidents of far distant disease.

Now, admitting that the brain is the organ of thought, we may suppose that, as in case of partial obstruction of the lung from inflammation, the remainder of the organ takes on an increased action, so as to supply the place of that which has been injured or destroyed. We know, that if one lung be hepatized, the



other takes on its functions, and carries on the process of respiration for a time. That this is the case, is shown, first by life being continued, and secondly by the stethoscope, which informs us that the respiration of the lung, which has a double duty thrown upon it, is remarkably intense, proving the force of its action; and it has been further established, that the lung which thus takes on a supplemental action may become enlarged and hypertrophied. May not this also occur in the brain? There is no reason why such a pathological phenomenon, occurring in one viscus, may not also take place in another. But the opponents of phrenology say, supposing the organ of causation to be destroyed, how can the person continue to reason? It strikes me that the only way in which we can account for this is, by supposing that other parts of the brain take on the functions of those which have been injured or destroyed. Nor is there any thing extraordinary or anomalous in such a supposition. We see, almost every day, examples of this kind. We see that in certain diseased states of the liver, accompanied by suppression of its secretion, its functions are assumed by other parts, and bile continues to be separated from the blood by the kidneys, salivary glands, and by the cutaneous exhalants. Here is a remarkable case, in which the glands and other parts take on the performance of a function totally different from that in which they are ordinarily employed. We find, also, that when the urinary organs are obstructed, urine, or its principles, are discovered in parts of the system where we should not at all expect them. Thus we have a very remarkable case detailed in the *American Journal of the Medical Sciences*, in which we find that a young female, who laboured under paralysis of the urinary organs, discharged urea from almost every part of the body, even from the ears. Neither is there any thing very extraordinary in this. In several instances of suppression of the menstrual discharge, do we not see a vicarious secretion taking place from the surfaces of parts the most distant, and unconnected with the uterine system? It is a well established law, that when the functions of organs are suspended or destroyed, other parts will often take on the action of the injured viscus. Now, supposing that a portion of the brain is to be looked upon as the organ of causation, and such portion is injured or destroyed, there is no reason why the remaining sound portion of brain should not take on, at least to a certain extent, in addition to its own, the functions of that part which has been injured. If, independently of any phrenological views, we admit the brain to be the organ of thought, there is no reason why we should not admit that the loss of intellectual power produced by lesion of one part may not be supplied by an increase of activity in the remaining portions. It is only by a supposition of this kind that we can account for the preservation of the integrity of mind in many cases of disease of the brain. If we admit the phrenological doctrines, we can suppose that when one organ is injured, another may take on an additional function, and in this way preserve the integrity of the intellect; so that, whether we reason from phrenology or not, the continuance of soundness of mind, in cases of injury of the brain, can be understood when you come to contrast it with other analagous pathological facts. I again repeat, that it is not more extraordinary that, in case of local injury of the brain, the sound parts should take on a supplemental action, than that bile should be eliminated by the salivary glands, skin, and kidneys, or that the principles of urine should be discharged from almost every part of the system, or that a vacarious discharge from the roots of the hair should supply the place of the uterine secretion.

On this subject one point should be always borne in mind, viz. that we may be wrong in saying that a patient is *quite sane* while he is still an invalid and in bed. Unless we can show that after his recovery, and in his various intercourse with the world, he preserves his original intelligence, it would be wrong to assert that there has been absolutely no lesion of intellect consequent on the affection of the brain. While lying at ease in bed, and unaffected by any moral stimuli, he may seem to possess a sound condition of mind, he may put out his tongue or stretch forth his hand when requested; he may give an



accurate account of his symptoms, and answer all the ordinary medical interrogatories with precision. But you are not from this to conclude that he is perfectly sane. Many persons under such circumstances have died in bed, and appeared to preserve their intellect to the last, but in such cases the test of sanity, *intercourse with the world*, could not be fairly applied, and hence I think that there are not sufficient grounds to pronounce a decided opinion as to the real condition of the intellect in such cases.—*Ibid*, June 21st, 1834.

22. *On Phrenology and its Connexion with Pathology.* By WILLIAM STOKES, M. D.—There can be no doubt that the principles of phrenology are founded on truth, and of course highly deserving of your attention, as likely at some future period, when properly cultivated, to exercise a great influence over medical practice. The great error of the phrenologists of the present day consists in throwing overboard the results of pathological anatomy. If a pathological fact is brought forward, as appearing to bear against the validity of their opinions, they immediately exclaim, “we don’t recognise any fact or principle drawn from disease: our science has to do with the healthy and not the morbid condition of the brain.” Now, this is altogether absurd. Phrenology, if true, is nothing but the physiology of the brain, and pathology is nothing but the physiology of disease. Phrenology must be tested by disease as well as by health, and if it does not stand the test of pathology, it is wrong. If phrenology be a science founded on truth, if it is a true physiology of the brain, or of that portion of it connected with mental phenomena, one of two results should obtain,—either that it should be confirmed by pathology, or that the difficulties, which pathology presents, should be explicable in a manner consistent with the science. The phrenologists, in my mind, are doing a direct injury to the cause of their science, by their unnecessary and ill-timed hostility to pathology. It is idle to say, as they do, that theirs is the science of health, and that it is unfair to apply to it the test of disease. From pathology is drawn a host of facts, from which the doctrines they profess derive their principal support. The mere phrenologist, who understands not and despises pathology, is nothing better than a charlatan, and professes a science which he does comprehend. If he would recollect that the brain in a state of health is most, and in a state of disease least, adapted to the purposes of thought, he would see that this is one of the strongest arguments in favour of his doctrine, that the brain is the organ of mind. The more healthy it is, the fitter is it to discharge the functions of intellect, and vice versâ, yet phrenologists are so absurd as to think that pathology has nothing to do with their science.

But besides confirming the doctrine that the brain is the organ of thought, there are innumerable facts drawn from pathology, which have a tendency to prove that particular parts of the brain are the organs of peculiar phenomena. We see an injury of one part of the brain accompanied by a train of symptoms indicating some peculiar lesion of mind; we see an affection of another part attended by a different class of phenomena. Here pathology, the science which phrenologists reject and despise, goes to establish the ground-work of their doctrines, that the brain consists of a congeries of parts, having each a separate and distinct function. We find, for instance, that disease of one portion of the brain affects the intellect, of another, the generative organs, of a third, the muscular system. What does this prove but that the brain is not a simple organ, but composed of a congeries of parts, each of which governs a different part of the system, or ministers to a peculiar purpose. Now, what is this but what the phrenologists themselves wish to prove?

Further, the professors of phrenology have placed all their organs on the surface of the brain, and for this they have been loudly censured. Phrenology it is urged, knows, or professes to know, nothing about the central parts of the brain, which must be equally important with the superficial, and have confined their investigations to the surface alone. Now it is a curious fact, that the pathology, which they deny, in this instance furnishes the best reply to this



objection. I mentioned at my last lecture, that if we examine the symptoms of delirium, we find that it characterizes the inflammation of the periphery, and is commonly wanting in that of the deep-seated portions. In other words, mental alienation is the characteristic of the disease of that portion of the brain, where the phrenologists have placed the intellectual organs. Here is a strong fact in favour of the doctrines of phrenology, derived from that science, which the mere phrenologist throws overboard and despises. Again, according to the researches of some celebrated French pathologists, there are a number of facts to show that there is a remarkable difference between the symptoms of arachnitis of the convexity and of the base of the brain. This conclusion, which after a most careful series of investigations was adopted by them, is borne out by the results of my experience, and appears to me to be established on the basis of truth. They have discovered that arachnitis of the convexity of the brain is a disease characterized by prominent and violent symptoms, early and marked delirium, intense pain, watchfulness, and irritability. We have first delirium, pain, and sleeplessness, and then coma. But in arachnitis of the base of the brain, the symptoms are of a more latent and insidious character, there is some pain, and the coma is profound, but there is often no delirium. What an important fact for the supporters of phrenology is this, and how strikingly does it prove their absurdity in rejecting the lights derived from pathology! Here we find the remarkable fact, that inflammation of the arachnoid, investing the base of the brain to which the phrenologists attach comparatively no importance, is commonly unattended with any lesion of the intellectual powers, while the same inflammation on the convexity is almost constantly accompanied by symptoms of distinct mental alienation.

It is objected to the phrenologists that they know little or nothing of the central parts of the brain, that though these parts may be fairly considered to be of as much importance as any others, still they do not admit them to be organs of intellect. Now, what does pathology teach on this subject? It shows that we may have most extensive local disease of the central parts of the brain, that we may have inflammation, suppuration, abscess, and apoplexy, without the slightest trace of delirium. Indeed there can be no doubt that the central portions of the brain have functions very different from those on the surface. They appear more connected with another function of animal life, muscular motion and sensation. Then, let us examine the phenomena of old age. Every one is familiar with the fact that when a man arrives at an extreme age, he generally experiences a marked decay of intellectual power, and falls into a state of second childhood. Does pathology throw any light upon this circumstance? It does. From a series of ingenious and accurate investigations conducted by two continental pathologists, Cruveilhier and Desmoulins, it has been found that a kind of atrophy of the brain takes place in very old persons. According to the researches of Desmoulins it appears, that, in persons who have passed the age of seventy, the specific gravity of the brain becomes from a twentieth to a fifteenth less than that of the adult. It has also been proved that this atrophy of the brain is connected with old age, and not, as it might be thought, with general emaciation of the body: for in cases of chronic emaciation from disease in adults, the brain is the last part which is found to atrophy, and it has been suggested that this may explain the continuance of mental powers, during the ravages of chronic disease; and also the nervous irritability of patients after acute diseases in which emaciation has taken place.

I might bring forward many other facts to show that phrenology is indebted to pathology for some of the strongest arguments in its favour, and I think that those phrenologists who neglect its study, or deny its applicability, are doing a serious injury to the doctrines they seek to establish. The misfortune is that very few medical men have turned their attention to the subject, and that with few exceptions, its supporters and teachers have been persons possessing scarcely any physiological, and no pathological knowledge. Phrenology will never be established as a science until it gets into the hands of scientific medi-



cal men, who, to a profound knowledge of physiology, have added all the light derived from pathological research. To give you an instance of the mode of reasoning of the non-medical phrenologists. In their drawing-room exhibitions, they appeal with triumph to the different forms of the skull in the carnivorous and graminivorous animals with respect to the development of destructiveness; and all are horrified at the bump on the tiger's skull. But as Sir H. Davy well observes, this very protuberance is a part of the general apparatus of the jaw, which requires a more powerful insertion for its muscles in all beasts of prey. Phrenology, as generally taught, may answer well for the class of diletantis and blue stockings, or for the purposes of humbug and flattery, but its parent was anatomy, its nurse physiology, and its perfection must be sought for in medicine. The mass of inconsequential reasoning, of special pleading, and of "*false facts*," with which its professors had encumbered it, must be swept away, and we shall then, I have no doubt, recognise it as the greatest discovery in the science of the moral and physical nature of man that has ever been made.—*Ibid.*

23. *Diagnosis of Local Disease of the Brain.* By WILLIAM STOKES, M. D.—Our next inquiry is how far we can diagnosticate the actual seat of disease from phenomena observed during the life of the patient. Do not suppose for a moment that this part of the subject is undeserving of your attention, in the strongest sense of the word. Recollect that the more accurate and extensive is diagnosis, the more certain and available is the practice of medicine. On this subject matters are not altered to the same extent as in the cases of chest, or abdominal diseases. In our knowledge of the two latter we have made vast strides within the last few years, but in cerebral affections, though much has been effected, much still remains to be done; and it is not improbable that some of the opinions on this subject still promulgated in schools require correction. If we examine the various cases of cerebral disease on record, we find that in some the paralysis was complete, and that sensation and muscular motion became as it were annihilated. In other cases the muscular system alone appeared to suffer, while in a third class we find that sensibility is destroyed, while the power of motion remains intact. Again, in some we have complete hemiplegia, in others the paralysis is but partial; in some the affection is slight and transient, in others it is incurable and permanent. The result of all this would appear to imply that there are different states and seats of cerebral disease, producing different modifications of nervous phenomena. It has been taught that a paralysis of the organs of speech, points out a lesion of the anterior lobes of the brain, and there are many cases on record in support of this opinion. Here is a pathological statement strongly in favour of the doctrines of phrenology. But on the other hand it must be confessed that there are numerous cases on record of lesion of the powers of speech, independent of any affection of the anterior lobe; and hence as far as the diagnosis of lesion of the anterior lobe, derived from loss of speech is concerned, we cannot make up our minds. You are aware that the phrenologists place the organ of language in the anterior inferior part of the brain. Now when an affection of this portion of the brain is found to coincide with the loss of speech, it is all very well, but the difficulty is to account for those cases of loss of speech, in which there is no appreciable lesion of the substance of the anterior lobe. In investigation on this point, however, you must bear the following distinction carefully in mind. The organ of language of the phrenologists is not properly the organ of the *power of speech*, but that by which, as it were, thought is converted into language. A man, from paralysis of his tongue, might be incapable of speaking, and such a case, existing without lesion of the anterior lobes, might be most unfairly quoted against the phrenologists. Again paralysis of the upper extremities has been connected with disease of the optic thalami and the posterior lobes of the brain. It is the opinion of Bouillaud, Serres, and others, that the

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optic thalami regulate the motions of the upper extremities, and it is a fact, that in many instances of paralysis of the upper extremities, disease has been found in these parts. We might term the following a synthetic case illustrative of the doctrine:—"A soldier was wounded in the right shoulder with a lance, in consequence of which he got an aneurism of the axillary artery, for which an operation was performed. At the moment the ligature was tightened he experienced exquisite pain in the situation of the ligature, which extended to the brachial plexus; this continued until the next day and then ceased. On the fourth or fifth day the pain returned with increased violence, and continued until the seventh day, when it became intolerable. He was blooded, but without any good effect, he then became comatose; his head was drawn backwards; he had alternations of stupor and excitement, and soon after expired. On dissection the ligature was found to embrace some of the principal branches of the brachial plexus, and there was an abscess in the posterior lobe of the brain, extending to the optic thalamus." Here we have a case of injury of the upper extremity, and that portion of the brain, which is supposed to govern it, was found in a state of manifest disease. Serres gives also the details of some experiments in support of this opinion. On removing the posterior part of the right hemisphere of the brain in a dog, he found that the left anterior extremity became paralytic; he prolonged his incision into the corresponding portion of the opposite hemisphere, and found that the right extremity became paralyzed. In another dog he plunged a bistoury into the posterior part of the right lobe, and found that the left anterior extremity became affected with convulsive motions. He then introduced into the wound a few drops of nitric acid, so as to produce inflammation of that portion of the brain, and observed that the convulsions of the left fore-foot became more violent; in fact, that the animal had all the symptoms of a local inflammation of the brain, namely convulsions, rigidity, and then paralysis. Rolando has performed a series of experiments with the same view, and his conclusions are exactly those of Serres. So that if we connect the results of these experiments with some facts drawn from pathology, we might conclude that the optic thalami, and posterior lobes of the brain, have a very important share in regulating the muscular motions of the upper extremity. I may here state, that, in this city, a case of a female occurred, who got an attack of severe pain in the left hand and fingers, which became afterwards contracted, and she had, in addition to this, alternate flexions and extensions of the forearm, *followed by resolution and paralysis*. On dissection there was an abscess found in the right optic thalamus; the rest of the brain was healthy.

With respect to those cases, in which there is paralysis of one of the lower extremities, it has been taught that it arises from disease of the corpus striatum, or the anterior lobe. The following case is given by Serres. "A woman, forty years of age, had an attack of apoplexy, from which she recovered with the left leg in a state of complete paralysis, and the left arm admitting of a slight degree of motion. Here was a case of lesion of both the upper and lower extremity of the same side, but in the former the paralysis was partial, in the latter complete. On dissection it was found that two circumscribed abscesses existed in the substance of the right hemisphere, the larger situated in the corpus striatum, the smaller in the optic thalamus. Another case is given of a patient who got paralysis of the side; the muscular power of the arm being completely destroyed, while the leg retained a considerable degree of motion. In this case the corpus striatum was but slightly affected, while nearly the whole substance of the optic thalamus was destroyed. I have also to remark, that Serres performed similar experiments on the corpus striatum in dogs, and came to the conclusion, that it governs the motions of the lower extremities. The structure, extent, and special action of the corpus striatum and optic thalamus, are said to afford some explanation, why, in ordinary cases of paralysis, the arm is more often affected than the leg, and does not recover so soon.



The fact of the prolongations of the optic thalami being much more complicated and extensive than those of the corpora striata, is thought to explain their greater liability to disease.

There are, however, not unfrequent exceptions to this law, and it is not uncommon to meet with cases which militate against the doctrines laid down by Serres and other pathologists, particularly so far as regards the connexion between the corpora striata and the government of the lower extremities, so that I would have you look upon it as a point *by no means* fully established. The latest observations on this subject are by Andral, who brings forward many facts opposed to the opinions of Serres, Foville, &c. &c. Out of seventy-five cases of accurately circumscribed disease of the brain, the disease being hæmorrhagic or otherwise, he found that in forty, where the paralysis existed in both extremities of one side, there were twenty in which nothing was injured but the anterior lobe, or the corpus striatum; while in nineteen the lesion existed in the posterior lobe, or the optic thalamus. In these seventy-five cases, also, were twenty-three in which one arm was paralyzed. In these, eleven presented the disease in the anterior lobe, or in the corpus striatum; ten in the optic thalamus, or posterior lobe; and two in the middle lobe. Finally, out of these cases were twelve of paralysis of one arm; ten of these presented disease in the corpus striatum, or anterior lobe, and two only with disease in the optic thalamus, or in the posterior lobe.

These facts, gentlemen, prove how uncertain the matter is yet. It would appear that when a simultaneous and equal injury of both corpora striata and optic thalami exists, it would be natural to expect complete paralysis of one side, and I believe there are some cases on record in support of this opinion. But when you have paralysis affecting both sides of the body, you are not to suppose that there is necessarily an affection of the corpora striata and optic thalami, for such symptoms, in the majority of cases, are found to depend upon either an intense congestion of the brain, or a large serous, or sanguineous effusion. The same phenomena are produced by the pressure exercised by the diseased on the sound hemisphere, in a case of local encephalitis, or by disease affecting the upper part of the spinal cord.

With respect to disease of the cerebellum, the only means of determining its affections consists in first considering the seat of the pain, if any, and in the next place the effect on the genital system. There are a great number of cases detailed in various treatises in proof of the close connexion between the cerebellum and the genital function. I shall relate a few of these. A man, aged thirty-two, got an attack of apoplexy, followed by violent erection of the penis, which continued until death: here we have a case of apoplexy accompanied by priapism. On dissection the whole of the cerebrum was found healthy; but there was an apoplectic effusion in the middle lobe of the cerebellum.

Another case is given of a man, aged fifty-five, who died of apoplexy in a brothel, and who, after the attack, had violent priapism. On dissection the substance of the cerebellum was found to be extensively destroyed, and there was an apoplectic effusion in the fourth ventricle. There is a remarkable case on record of a prostitute, in whom the clitoris was extirpated, and it was considered that it was the irritation of that organ which brought on a pernicious habit, by which her health was greatly impaired; and it was conceived that as soon as the supposed source of excitability was got rid of, she would give up her vicious propensity, and be restored to health. But in this instance it is probable that the effect was taken for the cause; for on her death, which took place some time after, the cerebellum was found to contain a number of chronic abscesses. Serres gives the case of a woman who died of an apoplectic effusion into the cerebellum. During the fit she had hæmorrhage from the uterus; and, on examining that organ after death, a large clot of blood was found within its cavity, and the broad ligaments, ovaries, and, in fact, every part of the generative apparatus were in a state of high vascularity. Yet this female was seventy years of age, and her menses had ceased at the usual



period. There is a most important case bearing on this point on record. A gentleman, who was subject to constant and distressing nocturnal emissions, consulted his physicians, who, considering them to be the result of debility, prescribed various tonic and stimulant remedies. He used various preparations of iron, bark, camphor, opium, hyoscyamus, nitric acid, and many other things of a similar kind, but without advantage. From the fact of the failure of these remedies, and the circumstance of his having complained of an occasional sense of uneasiness in the back of the head, his physician was led to think that his symptoms might have some connexion with an excited condition of the cerebellum; and, under this impression, had the back of the head shaved, leeches, and covered with a quantity of pounded ice. *From this time his symptoms began to decline rapidly, and in a fortnight he was quite free from complaint.* Now, this case, taken singly, would prove very little; but when we view it in connexion with the number of cases in which disease of the cerebellum has been known to be followed by excitement of the genital organs, it becomes of considerable importance. I have now seen two cases in which this connexion was observed. In the case of a young man who was brought into the Meath Hospital some time ago with paraplegia, it was observed that the penis was in a state of constant erection, and there were continual seminal emissions. On dissection an effusion of blood was found in the cerebellum, and another in the hemisphere opposite the paralyzed side. There was another case of a patient who was attacked with apoplexy and paralysis of one side, but with the unparalyzed hand he continued to attempt the act of masturbation, so that it was necessary to tie down his hand. On dissection there were several effusions in the substance of the cerebellum. All these facts strongly go to prove the connexion which subsists between the cerebellum and the generative function; and I think it would not be unsafe to make the diagnosis of disease of that organ in cases of cerebral disease, where the genital system was much excited.—*Ibid.*

24. *Symptoms of Encephalitis.*—Unless you study with extreme care a great number of separate cases of cerebral disease, you will never be able to get clear ideas on the nature of this affection, so peculiarly interesting to the pathologist, and the practical physician. More circumstances seem to combine in creating a variety in the symptoms of cerebral affections, than in those of any other viscus of the body. We have in the case of cerebral disease all the variety of symptoms depending on the peculiarity of the part engaged, on the complication of local encephalitis with arachnitis, on the results of the pressure, the nature and extent of effusions, the difficulty created by the phenomena of neurosis, and many other circumstances.

At my two last lectures, I drew your attention to some cases of local encephalitis, in which the disease was pointed out by certain affections of the muscular and generative systems. There are several other circumstances connected with this part of the subject, which are also deserving of attention, and it is necessary that you should be aware that there are other sources of diagnosis in cases of local encephalitis besides those already mentioned. There is no doubt, that though, in many cases, the occurrence of contraction, spasms, and pain in the extremities, precedes that of paralysis, yet we may have paralysis from local cerebritis coming on *without these precursory signs*, and as suddenly as in cases of apoplectic effusion. This important fact you must never lose sight of.

Of this I have now seen several instances. I recollect a remarkable case of a man who had been bled in the cold stage of an ague, with the effect of stopping the intermittent. In a few days symptoms of pneumonia set in with great prostration of strength. These were followed by signs of disease of the brain, which were that the patient became suddenly nearly insensible, and on that day was observed to have his hand constantly placed on the right side of the head. Next day, without any preceding spasms or contractions being observed,



he was found paralytic of the left upper and lower extremities, with paralysis of the left sterno-mastoid and loss of sight in the left eye. On dissection we found softening of the two anterior thirds of the right hemisphere, which were of the consistence of thick cream. The disease engaged the corpus striatum, but the optic thalamus was healthy.

Another remarkable instance occurred lately in a person labouring under aneurism of the innominata and hemiplegia. Here the paralysis came on suddenly and its cause was found to be an abscess of the brain. I must observe, however, that there were some precursory signs in this case, though contraction and spasms were not observed. The patient had violent head-ache, and was subject for some time to occasional numbness and pain in the affected arm.

I repeat it, you may have the greatest variety in the succession and combinations of the symptoms of this disease, and this observation applies to the lesions of muscular motion, sensation, the state of the intelligence, and the organic functions. You must study numerous cases to get an accurate idea of this disease. I would advise you to examine the writings of Lallemand, Bouillaud, Abercrombie, and Serres on this subject, and then consult the last edition of Andral's *Clinique Medicale*, where you will find the value of the symptoms discussed in a most impartial and philosophical manner. In this splendid work you will find many cases of cerebritis, in which the symptom of spasm and alternate flexions and extensions was wanting. Indeed he looks upon it as a symptom which cannot yet be called pathognomonic.

We may, I think, come to the following conclusions on this subject:—

1st. That local encephalitis is often accompanied by various forms of muscular contraction in the parts afterwards to be paralyzed.

2d. That in some cases the paralysis is not preceded by muscular contraction, though various lesions of sensibility may occur.

3d. That the paralysis may be gradual, (which is the most common case,) or sudden.

4th. That the contractions may be intermittent, periods more or less elapsing, when the symptom is absent.

5th. That in general the contractions occur in the first, the paralysis in the second stage.

6th. That in a few cases the reverse occurs.

7th. That in some cases, general or partial convulsions, and in others, tetanic symptoms, precede the paralysis.

You will see in the *Gazette Médicale*, for October 1833, the particulars of a most interesting case, recorded by Berard, jun., of fungous tumour of the dura mater, which was not accompanied by any alteration of muscular motion. This was removed, with the adhering portion of the dura mater, when the patient was attacked, for the first time, with loss of consciousness and convulsions of the trunk and extremities. The operator, justly concluding that the sudden removal of the partial resistance of the brain was the cause of the symptoms, applied a piece of agaric to the denuded surface, and made gentle pressure upon it, when he found that immediately the convulsions ceased, and the intelligence was restored. Thus, gentlemen, does disease often become a second nature, and its want is the cause of symptoms.

As far as we see of the brain, this pathological fact appears certain, that injuries of the upper part of that organ are accompanied by more marked and distressing symptoms, than similar lesions of the lower part. There seems, indeed, to be a decided difference between the sensibility of the superior and inferior parts of the brain. The great proportion of those cases, in which there was extensive latent disease of the brain, have been cases in which disease predominated in or towards the inferior surface of that organ. In this situation it has been proved by numerous examples, that you may have extensive disease without those symptoms of muscular or mental derangement, which ordinarily characterize inflammatory affections of the brain. I recollect the case of a



patient who was brought into our wards complaining of feverish symptoms, with pain of the left temple, extending to the eye of the same side. With the exception of this pain, he had no cerebral symptoms of any kind; his intellect was sound, and he was quite free from muscular pain, rigidity, spasms, or paralysis. He was ordered to take some opening medicine, and to have leeches applied over the seat of the pain, but derived no benefit whatever from their application. This led me to suspect that something unusual was going on, and more particularly when I observed that the leeches were repeated without any decided benefit. One morning, on going into the ward, I looked about for him for some time to no purpose; in fact, his countenance was so altered that I could no longer recognise him. During the night, the globe of the eye was almost suddenly thrust forward by an enormous œdema of the soft parts of the orbit, and the pain became excruciating. It was then conceived that the pain, complained of on admission, was the result of disease of the bones of the orbit, and that abscess had formed behind the eyeball. Under this impression, and in accordance with the earnest request of the poor sufferer, it was determined to make an incision to give exit to the confined pus. A curved bistoury was cautiously though deeply introduced over the eyeball, but on withdrawing it, only a small quantity of serum escaped. The swelling went on increasing, and the eyeball was pushed forward so as to be raised above the level of the nose. A curved bistoury was then carried extensively round the orbit but without giving exit to any matter. Under these circumstances, I came to the conclusion that it was an example of deep-seated abscess of the brain, with symptomatic œdema of the orbit. This œdema of superficial parts, in cases of deep-seated disease, is, you know, a thing of common occurrence, and may be observed in many instances of hepatic abscess, acute pleuritis, and other inflammations. In fact, there is such a remarkable sympathy between deep-seated parts and the integuments over them, that you may have this œdema in deep-seated inflammation of any organ. The patient now became gradually worse, his agony was intolerable, and the protrusion continued undiminished, but he had not either delirium or convulsions. He sank into a state of profound coma, in which he remained for about twenty-four hours, when death put a period to his sufferings. On dissection there was no pus found in the orbit, and its bones were healthy, but in the inferior part of the anterior lobe of the brain there was an abscess, about the size of a large walnut, resting on the cerebral surface of the orbit. I have since learned from several of my friends, that they have witnessed cases of the same description. It is an interesting disease, and one that you should be acquainted with. I think the existence of the following symptoms should lead you to suspect it. First, pain in the head, preceding the appearance of a tumour of the orbit, and this pain not affecting the orbit itself; for observe, in this case the pain was referred to the temple and not to the orbit. The next thing, is the pain resisting ordinary treatment, and being followed by a sudden œdema of the parts within the orbit and protrusion of the eyeball. These two circumstances, when occurring in conjunction, should, I think, lead you to suspect acute internal disease. Again, in those cases where abscess supervenes on caries of the internal table of the bones of the cranium, the affection is much more chronic than in this or similar instances of deep-seated abscess of the brain. With respect to this remarkable symptom of local inflammation of the brain, this external œdema, I shall relate the history of another case, as I am anxious to throw as much light as possible on this obscure subject. It may appear strange, that when a dense bony plate and an extremely strong membrane, (besides other parts,) intervene between the integuments and the seat of disease, that local œdema of external parts should take place as a consequence of internal inflammation. Strange, however, as it appears, it is true, and the intervention of the skull does not prevent it, as will be seen by the following case.

A boy was admitted into the Meath Hospital, complaining of severe pain in the situation of the mastoid process. He was of a scrofulous habit, and had for



a length of time a discharge of matter from both ears, with slight loss of hearing. Some time before his admission the discharge had been very copious, but on being exposed to cold it was diminished in quantity, and he immediately was attacked with severe pain behind one of his ears. When he came into the hospital he was screaming with agony, but had no delirium, and the muscular system was unaffected. But what was chiefly remarkable in this case, was, that, on the second day after admission, a distinct tumour formed in the upper portion of the neck, about an inch and a half behind the mastoid process. So distinct, indeed, was it, that it was generally believed that the disease was periostitis of the base of the skull, which had run on to suppuration. An incision was made over the tumour, and the knife was carried down to the bone, but no matter could be discovered. The patient became gradually worse, the pain was dreadful, but there were no convulsions. Shortly before death he had a few slight muscular twitches, with delirium, and died in great agony. During the whole course of the disease, the discharge from the ear had continued and was remarkable for its fætor. On examining the brain, we found neither abscess nor arachnitis. On slitting up the longitudinal sinus, a remarkably fætid odour was perceived, which increased as the incision was prolonged in the direction of the left lateral sinus. Here there was a quantity of extremely fætid matter, of an almost cheesy consistence, and mixed with blood, and a communication was discovered between it and the internal ear, the bones of which were carious, and its cavity filled with the same kind of pus. Here we have a curious example of œdema of the external parts depending on deep-seated disease.

I shall now relate the particulars of a case in which, although the symptoms of an affection of the brain were better marked than in the foregoing, still they were by no means so decided as one would have expected from the appearances revealed by dissection. A patient was brought into the Meath Hospital, with symptoms which were thought to be those which mark the ordinary form of delirium tremens. The man had been a great drunkard, but for some time back had given up the use of ardent spirits. He complained of severe and constant pain of the ear, which he stated to be of twelve weeks' standing, and that it was this which first induced him to give up drinking, as he found that it was always aggravated by the use of spirits. On admission, he appeared to labour under a highly excited state of the nervous system; he had general tremors, and was incapable of keeping up a connected conversation, though he could answer a few questions accurately. Here we observe a remarkable difference between this and the last case detailed, in which there was not the slightest evidence of any lesion of the intellectual powers. In the present case, the symptoms were pain, tremors, and incapability of supporting a rational conversation, but no decided constitutional symptoms. The pain, which had never abated since its commencement, became now violently exacerbated, he moaned frequently, and kept his hand constantly applied to the affected side of the head. To this last symptom I beg leave to direct your attention, as it is an exceedingly common one in cases of local inflammation of the brain. After a few days the mouth was drawn slightly towards the affected side, and it was found that the tongue was protruded in the opposite direction. Symptoms of fatuity now became more distinct, followed by coma, and the patient sank. During the whole course of the disease he had no spasms or paralysis of any of the limbs. On dissection there was a circumscribed abscess found in the substance of the middle lobe of the brain. The abscess itself was encysted, but the substance of the brain round it was soft, particularly at its inferior part, where it was found to be connected with a carious state of the squamous portion of the temporal bone. There was a considerable degree of softening in that part of the brain which lay between the abscess and the corpus striatum. Here we have a case in which pain of the ear is chiefly complained of; but, in addition to this, it was observed that the patient could not sustain a connected conversation, that there was some fatuity, that the mouth



was drawn to one side, and that coma came on before death. Under such circumstances there could be less hesitation in pronouncing the disease to be an affection of the brain; and accordingly we find, on dissection, unequivocal marks of disease of the middle lobe, in addition to the caries of the temporal bone.

I might detail many cases of a similar kind, without being under any apprehension that I should be occupying your time to no purpose, for the recital of such cases is better calculated to convey information on this obscure subject than any lecture. I shall, however, content myself with one or two more. A man, addicted to the use of ardent spirits, was brought into the surgical wards of the Meath Hospital in a state bordering on coma. It was thought at first that he was labouring under typhus fever, and, under this impression, no particular attention was paid to the cerebral symptoms for the first day or two. At the end of this period, it was learned that he had fallen in going up stairs, while in a state of intoxication. His head was shaved, but no signs of wound or contusion discovered, though his friends persisted still in their statement that he had fallen while intoxicated and hurt his head. When admitted into my wards he appeared moribund; his pulse was imperceptible at the wrist, he had extreme coldness of the limbs, and a disposition to the formation of gangrenous spots about the ankles. He was in a state of stupor; but when roused answered questions tolerably well, and said that he had no pain in his head. The remarkable feature, however, in this case, was a great degree of muscular rigidity, affecting all the extremities. The fore-arm was flexed, and he had not the power of extending it. The penis was in a state of permanent semi-erection, but there were no seminal emissions. Here was a case in which, taking all circumstances into consideration, the cause of the disease seemed to be in the brain. He had been drunk, and was supposed to have got a fall while in that state; he was comatose, from which, however, he could be roused; and he had rigidity of the limbs, with erection of the penis. With this view I came to the determination of treating it as a case of general inflammation of the substance of the brain. I concluded that there was no arachnitis, from the fact of his answering correctly when roused, while I felt convinced that if there was not actual inflammation of the substance of the brain there was at least very intense and general irritation. The treatment in this case was successful. After warming the extremities by wrapping them in flannel, and the use of artificial heat, the head was shaved, a large number of leeches applied, and an ice cap ordered to be worn constantly. The leeching was repeated, and he used the ice cap for four days. On the second day after this plan of treatment had been entered upon, there was some improvement, but on the following day the accuracy of our diagnosis of inflammation of the brain appeared, for the patient had violent spasms of the right arm and leg. These, however, subsided, the coma, rigidity, and other symptoms also disappeared, and the patient slowly but perfectly recovered. In addition to the means of treatment already detailed, the patient's system was placed under the influence of mercury.

A question might arise as to the exact nature of the case. Was it a case of actual inflammation of the substance of the brain, or was it mere sympathetic irritation produced by some other disease? It may be said that it was a case of gastro-enteritis, with a sympathetic affection of the head. It certainly might be so, but the great probability is that it was not; because such symptoms as were exhibited in this instance are very rarely the result of gastro-enteritis; and if it was a gastro-enteritis, it is not likely that such complete success should have followed treatment directed to the head. These circumstances make it likely that it was general irritation or inflammation of the substance of the brain itself; and, if so, the case strongly illustrates the utility of mercury, leeching, and cold applications in the reduction of encephalitis. The man was brought into the hospital in a dying state, and was cured under the influence of physiological treatment.

While I am on this part of the subject, namely, the possibility of the head



being sympathetically engaged in some instances to a very remarkable degree, I may say that the following conclusions on this point seem to be fairly drawn. That when an affection of this kind depends on a gastro-enteritis, the signs of cerebral irritation are *general* rather than *local*. In children who are labouring under apparent symptoms of cerebral affection, it has been long known that the irritation of the brain may depend on a variety of causes. In adults, too, the symptoms of cerebral irritation may be the result of various affections, of gastro-enteritis, worms in the intestinal canal, hysteria, hypochondriasis, and many other diseases. In most of these cases, however, particularly with respect to children, the symptoms are general, being pain, delirium, coma, and convulsions on both sides. But we very seldom witness the occurrence of symptoms of local irritation of the brain, as produced by sympathy with some other disease, though it is a fact that they may occur occasionally, and without our being able, after death, to discover any existing local encephalitis. A young female was admitted into one of the surgical wards of the Meath Hospital for some injury of a trivial nature. While in hospital she got feverish symptoms, which were treated with purgatives, consisting of calomel, jalap, and the *black bottle*, a remedy which deserves the name of the *coffin bottle*, perhaps better than the pectoral mixture so liberally dealt out in our dispensaries as a cure for all cases of pulmonary disease. She was violently purged, the symptoms of fever subsided, and she was discharged. A few days afterwards, her mother applied to have her readmitted, and she was brought in again and placed in one of the medical wards. Her state on admission was as follows:—she had fever, pain in the head, violent contraction of the fingers, and alternate contractions and flexions of the wrist and forearm. These muscular spasms were so great, that the strongest man could scarcely controul the motions of the left forearm. In addition to these symptoms, she had slight thirst, some diarrhœa, *but no abdominal tenderness*. On this occasion a double plan of treatment was pursued, the therapeutic means being directed to the head in consequence of the marked symptoms of local disease of the brain, and to the belly, from the circumstances of abdominal derangement observed in this and in her former illness. She died shortly after with violent spasms of the hand and forearm; and as she had presented all the ordinary symptoms of a local inflammation of the opposite side of the brain, we naturally looked there first for the seat of the disease. After a careful examination, however, no perceptible trace of disease could be found in the substance of the brain, which appeared all throughout remarkably healthy. She had all the symptoms which, according to Serres and Foville, would indicate disease of the optic thalamus, or the posterior lobe of the opposite side, yet we could not find any lesion whatever of its substance after the most careful examination. But, on opening the abdomen, we found evident marks of disease; *the lower third of the ileum, for the length of six or eight inches, was one unbroken sheet of recent ulcerations*. This case I look upon as a very singular one, showing that we may have well-marked symptoms of a *local* irritation of the brain depending on a sympathetic cause. It is fortunate, however, for the study of medicine, that such cases form the exception and not the rule. I may remark here on the latency of the enteritis as to the pain. There was no abdominal tenderness, a fact illustrative of the great law which so particularly applies to gastro-enteric disease, *that when the sympathetic affections are prominent, the usual or local symptoms are proportionally latent*.”

“I alluded in a late lecture to the occurrence of pain in some particular part of the extremities, as a premonitory sign of the disease. A remarkable case, bearing on this point, has come to my knowledge, and I think I cannot better employ the remaining part of our time, than in giving a brief abstract of it. A lady got a pain in the lower part of the tendo-Achillis, which was considered to be rheumatic, and very little notice taken of it. There was no swelling, heat, or tenderness on pressure, in the painful part, and the nature of the disease was so imperfectly understood, that all the efforts of her medical attendants were directed to the heel, but without any benefit whatever. Mat-



ters remained in this state for some time, when she was suddenly attacked with convulsions and coma, and died. On opening the head some hours after her demise, a large abscess, together with an apoplectic effusion, was found to exist in the opposite hemisphere of the brain. There are various other examples of a similar kind. I have no doubt that many of those anomalous pains are frequently connected with incipient disease of the brain. I know the case of a gentleman, labouring under a painful affection of the face, which had got the name of tic douloureux, and had been subjected to all the variety of treatment which persons labouring under that affection so commonly undergo. But it has since been proved that his complaint is by no means analogous to what has been termed tic douloureux, for it has been most successfully treated by shaving the head, and applying leeches and an iced cap over the seat of the suspected irritation. At present, whenever an attack comes on, he immediately gets a bladder, containing a quantity of pounded ice, applies it to his head, and in this way obtains relief. This shows that the severe pain in his case, which many would confound with a local affection of the nerves of the face, is decidedly the result of a morbid sensibility of the cerebro-spinal centre."—*Ibid.*

25. *Prognosis of Local Encephalitis.* By WILLIAM STOKES, M. D.—As a general rule, the prognosis is to be unfavourable, from the nature of the organ, its importance to life, and the frequently complicated and obscure nature of cerebral affections. In local encephalitis you have always two things to apprehend,—the acuteness of the disease and its subsequent effects. The patient may die of acute inflammation, or, if you controul this, of the chronic disorganization which frequently supervenes, terminating in apoplexy, paralysis, and other consequences. On the other hand, it is consolatory to reflect, that experience has proved the possibility of curing both general and local inflammation of the brain. There are numerous cases on record in proof of the success of well-directed treatment. The annals of surgical science are filled with cases of extensive injury of the brain successfully treated; and it is equally true, that medicine can exhibit many instances of well-marked idiopathic inflammation of the brain brought to a favourable termination. In making our prognosis on a case of local encephalitis, much will depend upon the extent to which the muscular system is affected. Spasm of one extremity is more favourable than spasm of both; and an affection of the muscles of the face is not so unfavourable as those of the extremities. The next thing to be considered is the age of the patient. In the very young, and in persons advanced in life, our prognosis is not to be so good as in the case of one removed from these extremes, as neither of the former admit of such active treatment; but of the two, it is better to have to manage the disease in a child. It is also singular how well children will often bear active treatment.

There is another point which should not be omitted. There are, in some cases of local inflammations of the brain, muscular contractions and extensions, alternating with a state of rigidity, while in other cases the rigidity is permanent. It is not easy to say which of these cases is the worst, but I believe that the most unfavourable are those in which we have chiefly violent contractions and extensions. Again; with respect to the cessation of the spasms, it may be considered either as a favourable or a most unfavourable symptom. The circumstance of the cessation of the spasms must have been produced by some modification in the state of the cerebral affection. If it be accompanied by a return of the power of transmitting proper motion to the affected limb, it is then a sign of great value, as showing that the cerebral irritation is nearly gone. But if the spasms subside, in consequence of the supervention of *resolution and paralysis*, then the cessation is a symptom of the most unfavourable kind, as showing that actual disorganization has taken place, which seems to be incurable.

It may be necessary to remind you that if the patient has, combined with these spasms, alternations of delirium and coma, it affords grounds for making



bad prognosis, as such symptoms indicate that the inflammation has extended to the periphery of the brain, and the arachnoid membrane. The state of the intellect is also a matter of importance; the more intact and undisturbed it is, the greater is the chance that the affection of the brain is confined within a small compass. Here, however, I am anxious to impress this upon your minds, that the absence of delirium should not mislead you, or induce you to form any favourable conclusions on that account alone, in cases of encephalitis, for it is a fact that we may have extensive and fatal disease of the substance of the brain without delirium. I need not tell you that convulsions, or paralysis of one side, do not indicate so unfavourable a prognosis, as where both sides are engaged. Lastly, you should bear in mind that cases of inflammation of the substance of the brain are very subject to relapse. All these circumstances should be taken into account, and a favourable prognosis should be always formed with a great deal of caution.—*Ibid.*

26. *Softening of the Brain.* By WILLIAM STOKES, M. D.—The term *ramollissement*, or softening of the brain, is one which is very extensively used, and I hear often without any precise idea of its meaning. In ninety-nine cases out of a hundred this ramollissement will be found to depend upon local inflammation of the brain; of this I do not entertain the slightest doubt. I think we may very safely consider it as analogous to the softening of the lungs, liver, or spleen, or from inflammation of their texture. There is a peculiar softening of the brain in old persons, which we cannot connect with actual inflammation, but in all cases in the child, and in almost every case in the adult, ramollissement of the brain will be found to depend on inflammation. I do not mean to infer from this that it is in our power to cure every case of softening of the brain, for when it once sets in, the great probability is that the texture of the affected part is destroyed; but we can cure many cases by subduing the inflammation from which it derives its origin. Of course we cannot expect to accomplish this in the case of old persons, where the symptoms come on without any inflammatory phenomena, as in that peculiar softening of the brain, which forms the subject of Rostan's work, and occurs in persons beyond the age of seventy. This appears to be a species of senile gangrene. That form of ramollissement, which occurs in adults and children, is, however, very different from this, being, in the vast majority of cases, the result of inflammation. You will hardly ever dissect a case of partial encephalitis in the adult, or of hydrocephalus in the child, without finding more or less of this inflammatory softening.—*Ibid.*

#### MATERIA MEDICA.

27. *On the different Action of Remedies on different Tissues.*—In our speculations on the *modus operandi* of medicines, it has been too much the practice to speak of the action of remedies on the system, as if the organism were an unit, instead of being composed of numerous tissues possessing various susceptibilities, modes of sensibility and of affectibility; and as if the modifications produced by each remedy were identical in all the various tissues, instead of being entirely different. It is in vain, whilst such a course is pursued, to expect that any advancement can be made in our knowledge of the action of medicines, or that our therapeutics shall acquire any degree of certainty. M. NAUCHE has called the attention of the Society of Practical Medicine at Paris to this subject, in communicating to it the results of some experiments made with a view of showing the diversity of action of different remedies on different tissues. We derive the following notice of these experiments from *La Lancette Française*, of 11th September, 1834. When we touch the surface of the brain of a living animal with nitric acid, it exhibits no signs of sensibility; but if we touch, with the same acid, the membranes of this organ, or the neighbouring parts, the animal utters the most violent cries.

Opium and its compounds, cold, ice, acids, and especially the hydrocyanic,



alkalies, bitters, camphor, assafoetida, different preparations of lead, of iron, of zinc, of arsenic, applied to the denuded skin, and to some parts of the fibro-vascular system, act as excitants; they produce, in these parts, irritation, pain, and inflammation. Applied to the brain and medullary substance of the nervous system, these substances are mostly sedatives in different degrees; they weaken the action of these organs without inducing sensible and primary phenomena of irritation and inflammation.

Heat, mucilages, mild wines, ether, blood-letting, are sedatives to the fibro-vascular system, and excitants to the tissues of the cerebro-nervous systems.

28. *Arsenic*.—Dr. STROHMAYER, in his *Medicinische Praktische*, relates in exemplification of the extent to which the system may become accustomed to the operation of arsenic, that a peasant in the Tyrol, for a long time took ten grains of arsenic daily with his food. The inmates of the convent fully testify to the truth of this statement.—*L. M. and S. Journ.*

29. *Opium*.—Dr. STROHMAYER, during the Turkish war, knew a wounded officer who daily took two drachms of opium to produce sleep. Beruts mentions a woman who was wounded in the pubic region, who often took two hundred grains a day, and who in thirty-three years had used two hundred pounds weight of opium. Schlegel has published the case of a female, aged forty-nine, who for six years daily took more than three hundred grains. At the age of seventy she died.—*Ibid.*

#### PRACTICE OF MEDICINE.

30. *Treatment of Painters' Colic*. By WILLIAM STOKES, M. D.—It is a fortunate circumstance that this disease is seldom fatal, and it is some consolation to think that, although the patient's sufferings are dreadful and often protracted, there is little danger of life, and that the complaint is almost always amenable to judicious treatment. I have been for some years in the habit of treating it in a routine way, and can speak from experience of its success,—of course this treatment is to be modified by circumstances. Suppose a patient applies to you with violent pain about the navel, a hard and retracted state of the abdomen, obstinate costiveness, and the other symptoms which characterize an attack of painters' colic; the first thing I would advise you to do is to prescribe a full opiate. Many persons would object to this, and say that there is constipation enough already, and that opening the bowels would be much more likely to give relief. But opium does not here add to the constipation; indeed, so far from doing this, it sometimes acts as a laxative. At all events, it is a remedy which is perfectly unobjectionable. Give, then, in the first place, a full opiate, it will have the effect of relieving the patient's sufferings, and will enable you to gain time for the employment of other means. The next thing is to place the patient in a hip-bath, and keep him in it as long as possible. Do not neglect this, for I know of nothing that gives more decided relief. I have often seen cases where the patient was quite easy while he remained in the bath, but experienced a return of the pain as soon as he left it. If you have no means of procuring a bath in this way; the next best thing is to have recourse to emollient stupes containing some narcotic, after the manner first introduced by my colleague, Dr. Graves. One of the best of this kind is the tobacco stupe, if you cannot get this you may employ poppy-heads for the same purpose. The tobacco stupe is much better than the tobacco injection, because its effect can be more easily regulated, but in violent cases I am in the habit of combining both, employing the stupe during the paroxysms of pain and throwing up a tobacco enema every four or six hours, until a decided impression has been made on the symptoms. In the success which has attended my distinguished friend Dr. O'Beirne's treatment of tetanus by the use of tobacco we see an analogous effect. In this way you will succeed in giving re-



lief, you should also prescribe a brisk cathartic, and this you may do without any fear of injuring the patient, or exciting intestinal inflammation. The insensibility of the intestines to the stimulus of even powerful purgatives is a curious feature in this disease, and bears strongly against the idea of its being connected with any inflammatory condition of the tube. In the Hospital La Charité the treatment is routine; it consists of an emeto-purgative plan, which is continued day after day until the symptoms yield. The purgative we employ in the Meath Hospital is croton oil, combined with castor oil and mucilage, or given in the form of pill. When the bowels have been freely acted on, the case generally goes on well. After the bowels have been opened, we continue the employment of the hip-bath, the narcotic stupes, and anodyne injections, taking care at the same time to persevere in the use of purgatives.

Andral makes a good remark on this point. "Here, (says he,) are cases in which, from some peculiar alteration in the state of innervation, the mucous surface of the bowels is rendered less sensible than in its ordinary condition, and can bear freely the stimulus of powerful purgatives. May not this condition also occur in other states of the economy? We are, therefore, led to conclude that purgatives are not, in all cases, direct stimulants."

Painters' colic has been treated in Paris by bleeding and leeching, but this has not been found so successful as the ordinary purgative plan. I have never seen a case in which general bleeding seemed to be called for except one, and this was a most violent case which had resisted the ordinary means of treatment for forty-eight hours. I recommended bleeding from its well-known antispasmodic power; a quantity of blood was taken, and soon after the purgatives began to act, and the patient got relief. With respect to leeches, I have employed them only in those cases which are accompanied with symptoms of fever and gastric irritation; where there is quick pulse, hot skin, foul tongue, thirst, vomiting, and epigastric tenderness. In such cases I have applied leeches, but my experience of them is, that the relief afforded is by no means so great, or so decided, as in cases of intestinal inflammation, and it is a mode of treatment which I do not by any means rely upon for removing the disease.

After the violent symptoms have been subdued, the next thing you have to consider is, whether there is any paralytic affection, and how this is to be treated. If the disease be severe or of considerable duration, you may look for paralysis of one or both of the upper extremities with a good deal of certainty.

31. *Treatment of Paralysis consequent to Painters' Colic.* By WILLIAM STOKES, M. D.—The paralysis which follows this disease is different from that which is the result of apoplexy; it is a neurosis of the passive kind, and to be treated as such. The patient, some time after the occurrence of the usual symptoms of colic from lead, begins to complain of weakness in his arm, he feels some difficulty in extending his fingers or raising his hand to his head, and then the symptoms become more marked. The arm and forearm become rapidly atrophied, the paralysis principally affects the extensors, while the flexors retain a considerable share of power, the fingers are bent, and the arm hangs by the side. Here the first thing you should do is to adopt the treatment recommended by Dr. Pemberton in his work on Abdominal Diseases, namely, to apply a splint to the inside of the forearm and hand, so as to counteract the preponderating influence of the flexors. Apply a splint to the forearm, wrap it up in flannel, and make the patient keep it supported by a sling. In this way you establish a kind of balance between the antagonist muscles, and place the extensors under favourable circumstances for bringing about a cure. If the patient has both arms affected, which is sometimes the case, change the splint from one arm to the other every second day, and continue this alternation until the cure is completed.

You will next have recourse to the use of strychnine, one of the best remedies we possess in cases where the paralysis does not depend upon organic disease of the brain. This is a remedy which is given with good effect even in



cases of paralysis from apoplexy, *where there is reason to suppose that absorption of the clot has taken place.* In a case of apoplexy, it can be employed only after some time and where depletive measures have been sedulously put in force, but in a paralysis of this description you may begin with it at once. Commence with the exhibition of one-twelfth of a grain of strychnine two or three times a day, and go on increasing the dose gradually, until a grain, or even a grain and a half, is taken in the twenty-four hours. To insure the exact division of this powerful drug, you should direct a grain of it to be dissolved in a few drops of alcohol, and then made into pills of an equal size with crumb of bread or conserve of roses. In this way you will succeed in bringing back the lost power of the muscles of the forearm and restoring its nutritive functions. I may mention here, that the atrophy of the paralyzed limb, which occurs in this disease, cannot be accounted for by supposing that it is produced by want of exercise; the emaciation is so rapid, (sometimes taking place in ten days or a fortnight,) that we can only attribute it to some unknown lesion of innervation.

If the use of strychnine be followed by severe muscular twitches, pain in the head, or convulsions, you must omit it for some time, and then, when these effects have completely subsided, it may be resumed if necessary. You should also bear in mind that this remedy is one of those medicines which have been termed accumulative, that is to say, a patient may be taking it for a considerable time without any perceptible symptom, and then its effects explode suddenly, the quantity which has been accumulating in the system manifesting itself at once by symptoms of great intensity. Here you omit it immediately, and with a view of relieving the existing symptoms, prescribe a draught, composed of camphor mixture, ammonia, and opium. This has generally the effect of calming the nervous excitement and you will seldom have any more trouble on this account. *En passant*, I would advise you, whenever you employ strychnine in private practice, to inform your patient of the occurrence of such symptoms, and tell him that there is no cause for alarm. Instead of strychnine, some of the continental practitioners are in the habit of prescribing brucine, and it is stated with considerable advantage. I have tried it in two or three cases without much apparent benefit, and I am inclined to think that it is decidedly inferior to strychnine. In France, however, it has been very largely employed, and has the reputation of being a remedy of considerable value in the treatment of paralysis. It has one advantage at least over strychnine, it can be much more easily divided and regulated, so far as respects the quantity given, as it is a much weaker preparation than strychnine, one grain of which is equivalent to six grains of brucine.

In addition to these measures, I have seen much benefit result from the application of blisters and frictions, with stimulating liniments to the spine. It is also of importance to remove the clothes in which the patients have worked; they are frequently charged, saturated with lead, and have a considerable tendency to keep up the disease. I have so often seen an attack of painters' colic reappear shortly after leaving hospital, and without any evident exposure, that I could only attribute it to the circumstance of their garments being saturated with the lead.

In the foregoing plan of treatment there is nothing new; it is, in fact, a routine practice, but it is one which is borne out by the results of pathology, and which, from long experience, I can strongly recommend. I may also remind you that the plan of treatment followed in the Hospital of La Charité, which has more cases of this disease than any similar institution in Paris, is completely routine.—*Ibid.*

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32. *Paralysis Agitans from Mercury.* By WILLIAM STOKES, M. D.—It is a proposition well known to almost every one, that many bad effects have resulted from the abuse of mercury; and I need not tell you how many persons are injured by the empirical employment of this potent drug on all occasions and in all constitutions. It is a common opinion that mercury acts principally on the capillary and absorbent systems, but there can be no doubt that it also acts upon the nerves, and that in a



very remarkable manner. I have seen cases where the constant use of calomel has produced a marked derangement of the nervous system, manifested by great irritability, tremors, hysterical excitement, and hypochondriasis. You will see in the various works on Toxicology an account of the effects produced by mercury on persons employed in quicksilver mines, and on tradesmen, such as looking-glass manufacturers and others who come in contact with mercury. I shall read for you the notes of a remarkable case of this kind, which was some time back under treatment in the Meath Hospital. It may be called a form of the paralysis agitans from the effects of mercury. Similar cases have been described.

A man, aged forty-six, was admitted into one of our medical wards in October, 1833. He stated that, from the time he was eight years of age, he had been employed in a looking-glass manufactory, and that his occupation principally consisted in what is technically termed the silvering of mirrors. In this process the operator's right hand is repeatedly immersed in a vessel filled with mercury, while the left fixes a sheet of tin-foil, on which the metal is rubbed. Artizans while thus engaged are in the habit of using a muffle, which covers the mouth and nostrils. This the patient said he had never used, because he found that those who were in the habit of wearing it did not enjoy better health. For thirty years he continued to enjoy tolerable health, with the exception of some bleeding from the gums, with shooting pains and a sense of formication in various parts of the body, accompanied by a slight loss of power in the hands, which came on at various times, and was generally relieved by the use of ardent spirits. He had been frequently salivated, and when admitted had lost nearly all his teeth. The mode in which he lost them was this, gum-boils formed close to the roots of the teeth, which soon after dropped out, and in this way the local inflammation subsided. About three years ago, he had an attack similar to that for which he had been admitted; he went into the hospital and was put under an active antiphlogistic treatment with relief. From that time up to the period of his admission, he had enjoyed tolerable health, except that the sight of the right eye was considerably impaired, and that his memory was slightly affected. He forgot the names of persons and places, and was frequently at a loss in endeavouring to recollect the persons to whom he had lent his tools. On being brought into the hospital, he presented an extraordinary specimen of human suffering, and I was at first unable to give his complaint a name, the case being the first of the kind I had seen. It exhibited the phenomena of a violent spasmodic affection; it was different from tetanus, or hydrophobia, or hysteria, but it bore some faint analogy to chorea. The head, arms, and fingers, particularly on the left side, presented a succession of quick, convulsive, jerking motions. The angles of the mouth were retracted, the eyebrows twitching, the head constantly thrown back, but the agitation scarcely raised the arms. The nostrils were spasmodically dilated. The sterno-mastoid, trapezius, scaleni, diaphragm, and the abdominal muscles were similarly affected. Their contractions were short, rapid, and painful. From the constant hiccup with which the spasms of the diaphragm were attended, and the jerking motions of the tongue, his speech was interrupted and indistinct. He was occasionally free from spasms altogether, but whenever he transmitted volition to any part of the muscular system, it became instantly affected. When he endeavoured to raise his foot from the ground, it quivered and fell quite powerless and useless. Whenever he attempted to carry a vessel to his lips, he generally overshot the mark, carrying the vessel towards his ear, nose, or forehead, and spilling its contents over his face or neck, so that it was a common saying among the patients in the ward, that he did not know the way to his mouth. But if a vessel was applied to his lips by another person, he could swallow easily. A sudden blast of cold air, the application of a cold hand to the skin, or the abrupt entrance of any person into the wards brought on an attack of spasms. The muscles of the left hand and of the left side were affected much more than those of the right. The mental powers were not impaired, the patient was intelligent, and seemed anxious to communicate the particulars of his case. During the whole course of the disease he retained



full power over the urinary discharge and defecation. There was some slight tenderness on pressure over the fourth and fifth dorsal vertebræ, but the rest of the spine exhibited no increase of sensibility. His skin was cool and dry, his pulse quick, weak, and small, his bowels inclined to be costive, but easily moved by laxatives. Here we see a marked difference between this affection and painters' colic.

The treatment adopted in this case was very simple. Leeches were applied to the tender part of the spine, the patient was placed in a warm bath, and got some laxative medicine, followed by an opiate. He was also ordered to have a large flannel shirt, and to be placed in a warm comfortable bed. He passed the night tolerably well, and next day appeared to be much improved. I shall not continue the daily reports of this case, but shall merely mention, that after a few days a great improvement took place. The spasms of the left side continued, though much less severe. Those of the purely voluntary muscles on the right ceased, while the spasms continued in the respiratory muscles on this side. We found that all the muscles of the face which have been called respiratory by Sir C. Bell, the platysma, scaleni, pectoral, and intercostal muscles, and the diaphragm were thrown into violent spasms, while the purely voluntary muscles remained in a state of perfect quiescence. I am not aware that this circumstance has been observed in any other case. As far as it goes, it tends to corroborate the views of Sir C. Bell. In the treatment of this case we employ narcotic frictions, particularly those composed of the extract of belladonna, to the spine with considerable benefit. The patient was cured by very simple means, and at little expense to his constitution.—*London Medical and Surgical Journal*, May 24th, 1834.

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33. *Treatment of Encephalitis.* By WILLIAM STOKES, M. D.—We have now to enter upon the treatment of inflammation of the brain; and you will find that a knowledge of the general principles of the treatment of cerebral inflammation will be quite sufficient to guide you, even in the management of cases which present apparent exceptions to the ordinary symptoms. The truth is, that the principles which should regulate the treatment of inflammation of the brain are nearly the same in all cases.

I shall commence with the treatment of the acute form in the adult. Acute phrenitis in the adult is an exceedingly severe disease, characterized in its first period by an high exaltation of the functions of the brain, and in its second by a corresponding depression. In this form of disease we have generally high fever, a strong bounding pulse, throbbing of the carotids, intense pain of the head, great brilliancy of the eye, with intolerance of light, vivid redness of the face, a ferocious countenance, and furious delirium. Under such circumstances there is no time to be lost; the brain is a delicate organ, and cannot bear much disease, and its powers of recovering from idiopathic disorganization seem much less than those of the lungs or abdominal viscera. Indeed, we must believe that, notwithstanding the assertions of Lallemand, it remains to be proved that recovery can take place after the stage of softening has set in, in idiopathic encephalitis. The brain differs from the lungs or digestive organs in having no excretory duct for the products of inflammation, and hence one cause of the greater danger of its idiopathic inflammations than its traumatic, where an opening is formed in the skull. In such a case, you have to apprehend two pathological lesions, the inflammatory softening of the substance of the brain, and the inflammation of its serous membranes, with effusion into their cavities. The patient, too, may die from congestion, or even an apoplectic effusion may occur, illustrative of the proposition of Broussais, that all encephalic irritations may produce an apoplexy. I have seen this termination, even in the infant under a year old; in such a case I once saw an apoplectic effusion which had supervened in the course of an arachno-cerebritis, and which amounted to several ounces of blood. Every moment is precious, and no consideration should induce you to put off even for an hour the adoption of the most rigorous measures. In the first place, you must bleed; and here let me remark, that blood-



letting should be performed, so as to make a decided impression on the symptoms. It will often happen, that, in the state of uncontrollable fury which the patient is in, it is dangerous and almost impossible to bleed him. Here you must endeavour to moderate the delirium, and there is no way by which you can accomplish your purpose so fully as by cold dashing. Where there is high delirium, I believe you will always find it the best plan to precede venesection by throwing a few basins of cold water over your patient's head. This will procure an interval of comparative tranquillity, during which you can open either a vein or an artery with convenience and safety. Of course, if any thing like collapse ensues, (which is possible,) you will not bleed immediately. The object of the cold pouring, under these circumstances, is to obtain such a diminution of the fury, as will allow of your bleeding the patient with safety as to the operation. If you cannot reduce the cerebral excitement by this means, it will then be necessary to put on the strait waistcoat, *pro tempore*. There is a difference of opinion among medical men with respect to the mode of abstracting blood; some prefer taking it from the arm, some from the jugular vein, and some from the temporal artery. Now, I am inclined to think that it is better to open a vein in the arm, and that venesection performed in this way will be found to answer every purpose. It is said, that if you take blood from the temporal artery or jugular vein, you deplete the brain more directly than you would by opening one of the brachial veins. This may be true, though I think it still remains to be proved that the drawing of a smaller quantity of blood from these vessels will have a more powerful effect on the system than from the arm. If you open the temporal artery, there are two disagreeable circumstances which you should be prepared to meet. In the first place, the patient is in a state of furious delirium, you don't know how long this may last, and it may happen, that in one of his paroxysms he will tear off the bandage, and, if not watched, bleed to death. A case of this kind occurred not long since, in the person of a gentleman of this city, who had the temporal artery opened. He tore off the bandage, and a terrible hæmorrhage ensued; assistance was procured, and the bandage readjusted; he tore it off a second time, and died shortly after, his death being evidently accelerated if not actually caused by the quantity of blood lost. Again, it is possible that an aneurism may be formed as a consequence of the operation, which may excite a determination to the head, and tend to keep the patient in a state of excitement. Thirdly, you must employ a bandage to secure the artery, and to this there is a strong objection, in consequence of the pressure which it makes on the external vessels of the head. I am therefore strongly opposed to opening the temporal artery in cases of acute inflammation of the brain, accompanied by high mental or muscular excitement. Now, with respect to the jugular vein, you are aware that to command this vessel pressure is also required. How this pressure can be made without interfering with respiration and compressing the veins of the neck, so as to add to the existing congestion of the head, I am at a loss to know. I would advise you, therefore, when you bleed in phrenitis, to prefer opening a vein in the arm, by making a free incision you can draw blood in such a way as to make an impression on the system, fully equal to that produced by either of the foregoing modes; and without subjecting your patient to the same degree of inconvenience or risk. The quantity of blood to be taken away must be regulated by the age, strength, and constitution of the patient, as also by the intensity of the disease. Where you have to deal with a young man of robust constitution, your first bleeding may amount to thirty ounces. You will often find it difficult to produce fainting in this disease, for the excited condition of the brain keeps up a constant determination to that organ and prevents syncope. The same difficulty is met with in cases of hypertrophy of the left ventricle, which causes a great determination to the head.

Your next step is to have the head shaved. Never omit this. The very circumstance of freeing the head from the covering of hair, and permitting the free contact of air with the scalp is of advantage; and if you wish to employ cold applications, you cannot do so properly without premising this operation. After



you have done this, you should apply a large number of leeches to the scalp, or if you cannot readily procure leeches, employ instead of them light scarifications to the temples and nape of the neck, and keep on the cupping-glasses until you have obtained a sufficient quantity of blood. By acting in this way with promptness and decision, you arrest the violent symptoms, and gain time.

In treating a case of this kind it is a very common practice to use cold applications. They are for the most part applied in shape of a cold lotion to the head, but I need not tell you that this is a very imperfect mode of using them, and indeed I have seen but very few persons who were acquainted with the proper mode. Persons are in the habit of supposing that the mixing of a certain quantity of saline ingredients, with water, should produce a very cold lotion, and so it does indeed while the salts are dissolving; but as soon as this is accomplished, the mixture rapidly acquires the temperature of the surrounding air. The solution is generally prepared by the apothecary, (and sent in a bottle, as if they could cork up the cold,) but the cold is quickly lost, and, in a few moments after the lotion has been applied, you will find it quite tepid, and passing into a state of vapour. Now if you wish to derive any benefit from the use of cold applications, you must stand by yourself, and see the thing properly done. The object is to have the scalp kept constantly cold, and this can be done only by the repeated application of cold lotions. If you prefer saline lotions, you should have them made by the bedside, and applied *while in the act of solution*, or you should put a quantity of ice into your lotion, for a while a single piece of the ice remains undissolved, the temperature of the lotion will be very little above the freezing point. A very good way, is to have a jar of cold water, with a quantity of ice in it and to apply the cloths dipped in it every minute, taking care not to immerse the hot cloth into the iced water, until it has been wrung out in another vessel of water. You may also use the ice cap, though this is a painful remedy. But the mode of using ice to the head which I prefer in all cases, and particularly that of the child, is to take a piece of smooth ice, about the size of a dollar, and half an inch thick; this is to be placed in the hollow of a fine cup sponge, and steadily moved over the whole shaved scalp. By this mode you prevent the pain which the iced cap produces, and the sponge absorbs the water produced by melting, and the application may be continued for an indefinite length of time. But one of the best modes of applying cold to the head, is that recommended by Dr. Abercrombie, and, as far as my experience goes, I can safely affirm that there is scarcely any remedy of such unequivocal value in acute inflammation of the brain or its membranes. Dr. Abercrombie's mode is this—the scalp being first shaved, you direct the patient's head to be held over a basin, and then taking a jug of cold water, pour its contents over the head from some height in a small continuous stream. This measure, simple as it may appear, is one of extraordinary efficacy. In fact, so great and instantaneous is the depression of the vital power produced by this mode, that it must be used with caution. There are numerous cases of persons in the highest state of maniacal excitement, reduced in a few moments to a low and weak state by this powerful remedy. There are also instances of its rapidly depressing effect in the early stages of acute hydrocephalus. I have used it more in the phrenitis of adults, than in the hydrocephalus of children; but in the latter disease I know many instances of its value, and believe it to be only secondary to the application of leeches. In acute inflammation this form of cold effusion should be employed every hour or half hour, according to circumstances, and if you wish to increase its efficacy, you can do it by placing the patient's feet in warm water at the time of its application. Here, then, gentlemen, is the first set of remedies you should employ in a case of acute phrenitis; a full bleeding from the arm, premising it, if there be great maniacal excitement, by dashing a basin of water over the patient's head; shaving the head, and applying a large number of leeches, or if these are not within reach, the use of cupping; and, lastly, the constant application of cold lotions, or the use of the cold effusion after the manner employed by Dr. Abercrombie. These are the great measures which should be boldly



and promptly put in practice, in order to counteract the first violence of a case of acute inflammation of the brain.

You will next act upon the bowels by purgatives. This is a matter of the deepest importance, for there is hardly a disease in which the judicious administration of purgatives has been followed by more decidedly beneficial effects, than in inflammation of the brain, where the digestive tube has been in a healthy condition. Purgatives are also found to be of great benefit in the simple hydrocephalus of children, and in several cases it has been observed that the disease did not yield even after active bleeding, until purgation had been employed. Dr. Abercrombie speaks in the highest terms of the value of purgatives, even after coma has set in. The purgatives which are generally used are those of the drastic kind, and they may be given by the mouth or in the form of enemata.

Such are the rules for the treatment of the ordinary form of acute encephalitis. I shall now make a few observations with respect to the local applications. It may not be necessary to repeat the venesection, particularly if the means which I have recommended be put in practice in a regular and proper manner, but it will in most cases be requisite to repeat the leeching. *Even in the advanced stage of the disease, and after coma has made its appearance, Dr. Abercrombie lays great stress on the benefits derived from the application of leeches,* and I think I have myself saved some lives by the employment of leeches, even after the supervention of coma. In all violent cases I would recommend strongly to you the using relays of leeches, from the first, to keep up a continual detraction of blood. In addition to this, the patient must be kept perfectly quiet, all loud sounds, and the stimulus of light avoided; the room should be kept cool and well-aired, the bed-covering light, the attendants few, and the nurse should be a person of cool temper and steady disposition.

These are the principal measures to be employed in the treatment of acute inflammation of the brain in the adult; there are certain cases, however, in which you may add to these measures others of a different kind, particularly in cases where the disease has occurred as a consequence of the metastasis of inflammation from other parts. Suppose you have a case of rheumatism, or of some suppressed evacuation in which there is a metastasis to the brain. Under such circumstances, while you employ the means I have mentioned for the purpose of subduing cerebral inflammation, you will also put in practice the best measures for restoring the original disease. Here, however, you should bear in mind, *that your attempts to bring back the original disease are always to be looked upon as secondary to those for the direct removal of the existing irritation of the brain.* Some practitioners, in such cases, content themselves with endeavouring to restore the original affection, but this is playing a dangerous game. An organ of vast importance to life is affected, and you cannot calculate how far the inflammation may proceed. You should never neglect taking proper steps at first to reduce inflammation, while at the same time you need not neglect the means calculated to bring back the former disease. If the encephalitis be caused by the suppression of bleeding piles, or a sudden checking of the menstrual flux, leeches to the anus or vulva are found useful along with the direct treatment. If the disease be produced by the repression of an exanthematous eruption, the same principles apply. You should never omit employing the means for bringing back the original affection, but you should always recollect that they are to be secondary to the measures adapted to directly relieve the cerebral excitement.

With respect to the use of blisters, the same rules apply here as in other cases of disease treated of during the course. They are never to be used in the early stage of the disease, and while active inflammation is present; and, as a general rule, I believe it is better to apply them to the nape of the neck, or the inside of the legs, than directly to the head. There is only one case in which you can apply them with advantage to the head itself, and this is, where there is coma, with a cool skin. Here the stimulus of a blister is frequently found to be highly useful.



As to the use of mercury in cases of acute cerebral inflammation, I think we have not as yet a sufficient number of facts on which to form any decided opinion. If we look to hydrocephalus, we shall find that there are many cases in which the symptoms did not yield to the ordinary measures until mercury was employed; this, however, we do not find to be so much the case in the acute inflammation of the brain in the adult.—I shall return to this subject on a future occasion.

I have little doubt that emetics are very dangerous in this disease, from the determination to the head which they produce.

Any of you, gentlemen, who has vomited, cannot forget the violent sense of tension about the head, with which the act is accompanied; and, if the brain be in a state of acute inflammation, you can readily conceive how injurious such an effect must be. The use of emetics in this disease has been adopted in consequence of a misconception of the opinions of Dessault. He attributed extraordinary efficacy to the use of tartar emetic, in cases of injuries of the head. But you must be aware that Dessault did not give tartar emetic so much with the view of exciting emesis, *as of producing a degree of nausea calculated to keep down inflammatory action*. Morel, who was a pupil of his for five years, makes a statement to this effect, and says that so far from proving beneficial when it vomited, the tartar emetic was always attended with unfavourable results. When it acted on the skin, or by stool, he says the effects were favourable; but when it vomited, the symptoms of cerebral excitement were always increased.

Under these circumstances, I think you should be cautious in having recourse even to tartar emetic, after the manner of Dessault; for even in this way you run the risk of vomiting. On this point we have eight very instructive cases given by Lallemand. In the first two cases where emetics were used, the head had been merely threatened. The emetics were followed by profuse vomiting, and this by symptoms of *violent cerebral excitement and rapid death*. The third case was that of a patient who had apoplexy: the emetic was followed by symptoms of inflammation of the brain and death. On dissection there were marks of inflammation discovered round the clot. Now it has been observed in several instances, that where the substance of the brain round an apoplectic clot became inflamed, that, in addition to the phenomena of apoplexy, symptoms of a spasmodic affection of the muscular system supervened. Here we see that, after the use of an emetic, these symptoms appeared, and their nature was verified by dissection. In the remaining five cases, where emetics were employed, the cerebral affection was rather increased than diminished; and, in some of them, disease of the digestive tube was superadded. Weighing these circumstances calmly, I think the use of emetics in acute inflammation of the brain may be considered dangerous.

With respect to opium, I must say, that I am strongly opposed to its employment, at least in the early stage of encephalitis. I have seen many cases of hydrocephalus in children, in which opium seemed to be decidedly injurious; and I believe that in all cases where there is congestion of the brain, its employment will be attended by bad effects. But when all the symptoms of active inflammation have passed away, and when there remains a peculiar nervous condition of the brain, characterized by symptoms of mental excitement and persistent watchfulness, somewhat resembling delirium tremens, here, I believe, that you may have recourse to opium with much benefit. In many cases, where the antiphlogistic treatment had been properly employed at the commencement, there frequently remains a neurotic condition of the brain, accompanied by great irritation and absence of sleep; and in such cases I have seen much good resulting from the use of opiates. When I speak of fever I shall return to this subject.

In the treatment of this disease, I am anxious that you should always bear this principle in mind,—that you cannot be too cautious in adopting means of coercion. Coercion has always a bad effect: it should never be resorted to, except in cases of extreme necessity; and you should never suffer the patient's attendants to employ it without your express permission. It is a common prac-



tice in hospitals, where the attendants always wish to save trouble, to put on the strait waistcoat as soon as the patient exhibits symptoms of delirium. What is generally the result of this treatment?—The poor sufferer becomes irritated by confinement, and uses the most violent efforts to liberate himself; his struggles increase the excitement of the brain, and prevent the measures you employ from taking effect. I have known many melancholy cases, illustrative of the abuse of the strait waistcoat. I shall give you one:—A female, of delicate habit, was attacked with fever and some delirium. She was supposed to labour under disease of the brain. They put a strait waistcoat on her, and tied her down to the bed, where she remained for several days in a most deplorable state. A medical man, who was called in to see her at this time, found her in the situation described, with her head shaved and blistered, and her strength sinking. It struck him that there was something peculiar in the case, and he asked her several questions with the view of testing her sanity; and, finding that she answered rationally, he immediately directed that the strait waistcoat should be taken off. She then told him that, during the whole course of her illness, she had laboured under pain of the right side. He examined her side, *and found a large tumour in the situation of the liver.* There was also an eschar on the back. She died shortly afterwards; and, on dissection, the liver was found to be in a state of extensive suppurative disease; the brain perfectly healthy. It is unnecessary for me to make any comment on this case.

While, however, I deprecate coercion as a common mode of proceeding, I fully admit that cases will occur that demand it for the safety of the patient. The dreadful tendency to suicide is one of the characters of this disease, and must never be forgotten in any case. All that I wish to impress upon you is, that coercion must be used with great caution, and only so long as it is absolutely necessary. When we come to treat of the nervous symptoms in fever, I shall recur to this subject.

In all cases of cerebral disease you should never omit inquiring into the state of the bladder, for there is often retention of urine. This is to be obviated by drawing off the urine with a catheter, two or three times a-day.

You will meet with cases of cerebral inflammation in the last stage, with profound coma, general paralysis, an imperceptible pulse, and tracheal rattle. It is a melancholy thing to be called to a case of this description, where the ordinary means furnished by medicine are so inadequate to the removal, or even the alleviation, of symptoms; and yet it is a fact, that, even under these circumstances, cases have been cured by the adoption of an extraordinary measure. This consists in the employment of enormous and sudden counter-irritation, by pouring boiling water over the lower extremities, while, at the same time, ice is applied to the head. This is certainly an extraordinary and barbarous method; but it has succeeded in rescuing the patient, as it were, from the jaws of death. One of the most singular cases of this kind is recorded by Lallemand—that of a man upwards of sixty, who, in consequence of a fall on the head, was attacked with encephalitis, which was mistaken for an essential fever until the tenth day. At this time he was first seen by Lallemand, who found him labouring under severe and long-continued syncope; the right extremities flexed; the hand firmly closed; the surface on this side insensible; the eyelids closed; the eyes turned up, squinting, and insensible to light; complete loss of hearing and intelligence. The body was covered with a cold viscid sweat; the respiration frequent and stertorous, and the pulse absent. Lallemand proposed pouring boiling water on the ankles, and, at the same time, applying ice to the head, an advice which was consented to with great reluctance by the other medical attendants. At the moment the boiling water was applied, there was a sudden motion of the whole body: the left arm was agitated, the eyes opened, and the pulse could be felt at the wrist. In half an hour the boiling water was applied to the thighs with still greater effect; colour returned to the face, and the pulse became fuller. From this time improvement went on. Deep suppurating wounds were produced by the boiling water, which took more than six weeks to cicatrize. The patient's recovery was perfect.



In Dr. Mackintosh's work, you will find this practice recommended. It is, indeed, an extreme remedy, and one which, for many reasons, practitioners would have repugnance to use; but it is well to be acquainted with such a powerful remedy, and to know that it has succeeded under the most desperate circumstances.

With respect to partial encephalitis, the principles of treatment are the same. In this form of disease, you will often have to contend with the prejudices of the patient, and sometimes of practitioners who do not recognise its existence. Its symptoms, you will remember, may at first appear slight or insidious, and to the superficial observer less referable to the head than elsewhere; yet the disease is full of danger, slight though it appear. The recent researches on this subject have shown, too, that it is commonly a comparatively acute disease. Andral gives a table, showing the periods in 105 cases: in 89 of them death occurred within a month. The liability, too, of secondary complication, with general congestion, arachnitis, or apoplexy, must be always borne in mind.

When the symptoms of a local encephalitis are decided, I think you should always commence by bleeding from the arm, and then apply relays of leeches and cold lotions to the opposite side of the head. You will also find the application of tartar emetic ointment, so as to bring out an eruption as soon as possible, of great value in cases of this kind. Above all things, take care to relieve the symptoms by prompt and decided measures before the stage of paralysis comes on, for when this arrives, I believe you can do very little in the way of cure. I have seen three cases in which, after the usual depletions, the symptoms were relieved by bringing the patients rapidly under the use of mercury; and I think local inflammation of the brain may be treated by mercury as well as localized inflammation of other parts. My late lamented friend, Dr. Leahy, communicated to me the particulars of two cases in which pain, spasms, and other symptoms of a local encephalitis were present, and in which complete relief was obtained as soon as mercurial action was brought on. I recollect an old lady who got pain in the right side of the head, with contraction of the fingers of the left hand, and alternate flexions and contractions of the forearm, accompanied by slight lesion of the intellectual functions. She was leeches three or four times, blistered, and purged, without any decided relief. I then determined to try the effect of calomel, and was gratified to find that, according as her mouth became affected, the pain and contraction of the fingers, as well as the motions of the forearm diminished considerably, and as soon as full ptyalism was established all her symptoms disappeared. This case is particularly interesting, inasmuch as it shows that the ordinary treatment by leeching, counter-irritation, and purging, failed in giving relief, so that we are justified in attributing some value to the use of mercury. In the advanced stages of this disease, it seems right to employ a seton in the back of the neck; and I would advise all who have been attacked to continue the use of this remedy for a great length of time.—*Ibid*, June 28th, 1834.

34. *Obstinate Amenorrhœa cured by Sinapisms to the Mammæ.*—Two cases of this description are recorded in the *Dublin Medical Journal* by Dr. Patterson, and more recently one has been published in the *London Lancet*, (23d, May 1835,) by John Jones, Esq. The subject of this last case was a woman æt. 21, who had been labouring under suppression of the menses for upwards of eighteen months, with much consequent derangement of her general health. She had been under a variety of treatment without benefit, and Mr. Jones dosed her for several weeks with aloetic purgatives, mineral tonics, vegetable bitters, cantharides, secale cornutum, &c. &c. without producing even the slightest appearance of the subsidence of the disease. He then recommended a sinapism, consisting of equal parts of powdered mustard and linseed-meal with warm water, q. s. to be applied over the whole of the right mammæ at bed time, and there suffered to remain as long as it could be borne. The sinapism was continued on for about an hour and a half, and on the even-



ing of the ensuing day the breast was very painful and much swollen, which symptoms so much increased on the third day as to cause considerable symptomatic fever. On the fifth day, however, the catamenia appeared in considerable quantity, and continued for nearly four days. The patient has since menstruated regularly and is now restored to perfect health.

35. *Treatment of Sore Throat and some other Inflammations of the Mucous membrane by Sulphate of Alumine and Potass.*—The *Gazette Medicale* of the 4th of April last contains an interesting memoir on this subject communicated to the Royal Academy of Medicine by M. VELPEAU. Having witnessed the success obtained by M. Bretonneau in many severe epidemic anginas, by certain cathæretics, M. Velpeau wished to ascertain whether these means would not be equally efficacious in purely inflammatory affections of the throat. Accordingly he tried the diluted hydrochloric acid, the nitrate of silver and alum in simple angina as they are used in croup and malignant angina by M. Bretonneau. The result of his experience is, that not only the malignant forms of angina are arrested by the application of alum, but also those dependent on small-pox, scarlatina, &c. and those of a simple inflammatory character. Twenty-five individuals were submitted to the treatment, and, in all, the inflammation, which was characterized by redness, pain, fever, &c., was arrested at once. When employed in powder, the alum is applied most readily on the index finger. It is necessary that all the affected points of the pharynx should be covered with a layer of the substance; hence when the inflammation is extensive, the finger must be moved at various returns round the parieties of the back of the mouth. The application is to be repeated, according to circumstances, once, twice, or three times a-day. During the interval the patient is to gargle the throat with a solution of two to four scruples of alum to four ounces of honeyed barley-water. The application commonly determines cough, nausea, &c. but these and the disagreeable taste of the alum soon go off; the pain and fever almost universally commence to diminish after the first or second application, so that on the second or third day the patient is in a state of convalescence, the most remarkable effect being the sudden cessation of the fever, and the change in the timbre of the voice. In slight cases of inflammation, gargles with alum are generally sufficient for the cure, but in more severe and violent attacks the powder must be placed in contact with the affected membrane without delay.

36. *On the Curative Properties of Hydr iodate of Potass in Periostitis and Chronic Articular Rheumatism.*—The *London Medical Gazette* for May last contains several cases of these diseases cured by the hydr iodate of potass.

According to the relater of these cases, Dr. CLENDINNING, the powers of iodine as an antiphlogistic were first made known by Dr. Williams of St. Thomas's.

"I have not," he says, "in my limited reading, (Dr. Williams's paper excepted,) met with any notice of iodine in this character. I do not consider as exceptions certain works on scrofula and syphilis, particularly the latter, of which I have at this moment one before me, by Dr. Richond, entitled, '*De la non-existence du virus venerien,*' &c. Paris, 1826; a work with the use of which Dr. Williams has kindly favoured me. In none of the works I allude to, is what I would call the antiphlogistic property of iodine acknowledged or denied; to none of the authors does it seem to have been known. In Dr. Richond's work, the remedy is spoken of, not as an antiphlogistic, but as a discutient; not under the head of periostitis, but as a means of effecting the dispersion of a phymotic swelling of the prepuce and of buboes, after their passage into the indolent state, often succeeding acute inflammation. Its use also was external, by friction, and not by the mouth. I have already mentioned that Dr. Williams seems to limit its utility to periostitis, but in extending its use to the chronic inflammations and irritations of the ligaments and tendons, which seem the essential elements in general of inveterate articular rheuma-



tism, I have been guided by palpable analogies, anatomical and physiological. In one instance only I have tried it in chronic gout, and in that case, (viz. Case 13,) it seems to have produced effects as satisfactory as could reasonably be desired.

“For the inflammation of the nutrient membranes, and possibly of the substance also of the hard parts, iodine, in the form of alkaline hydriodate, seems to possess many advantages over most remedies in common use, in the diseases in which such inflammations occur. One advantage is, that its use involves no restrictions of diet or regimen: so far as I have been able to judge, a full and even generous diet, and self-indulgent habits, offer no impediments to the action of the remedy. A liberal use of animal food, in particular, I think rather favours its action than impedes, where there is no pyrexia, owing to its enabling the stomach the better to bear the stimulating, and often at first irritating, qualities of the salt. 2. Its use occasions no susceptibility of cold, like warm-baths, or diaphoretics, or mercury. 3. It does not necessarily debilitate, like bleeding or other evacuations. 4. It harmonizes, chemically and medicinally, with almost every sort of substance it may be desirable to combine it with. It is compatible with bitters, astringents, opiates, antacids, aperients, and diffusible stimulants, as I myself experienced; and the experiments of Dr. Thomson and others prove its medicinal compatibility with chalybeates and mercurials. With regard, likewise, to the mode of using iodine, I may shortly notice the advantages of the internal use of the neutral salt 1. It requires no handling, pressure, &c. of the tender part. 2. The whole dose is absorbed if but swallowed, and no labour or care is required to secure its due appropriation, in which it contrasts very advantageously with the endermic method. 3. It is infinitely more manageable in internal use than pure iodine; the internal use also is preferable to the external in most cases: first, it does not disturb the inflamed part; secondly, under the eye of proper attendants, its absorption is rapid and sure; thirdly, it is not troublesome, like friction.

“The inconveniences are few and unimportant: the principal are heartburn, flatulence, nausea, and diarrhœa; and sometimes vomiting, colicky pains, and such like. But these symptoms are generally suffered only at the commencement of its use, and are easily prevented or subdued. By dilution—by taking it in a mucilaginous fluid, or in a bitter decoction, such as that of gentian—by taking it on a full stomach, or just after meals, and at no other times—by beginning with a small dose of two or three grains, and increasing gradually—by the use of antacids and aromatics, when cardialgia is troublesome—by the prompt employment of chalk mixture and laudanum, to check intestinal pains and diarrhœa—I have generally been able, after the first few days, if not from the beginning, to use liberal doses of the salt, and quickly to bring the constitution and disease under the influence of iodine; and when other indications than those which iodine alone might be expected to fulfil have called for attention, I have found no difficulty in bringing it to coöperate with various remedies of different and even opposite characters, without its either offering or suffering impediment.

“When first used, the hydriodate of potass sometimes causes pains and other inconveniences in the head, chest, and other parts remote from the stomach. Head-ache and vertigo are often amongst the first fruits; especially in nervous women, in whom it likewise excites the globus and other troublesome hysterical symptoms. In fact, from a consideration of the influence and sympathies alone of the stomach, we might *à priori* infer, that, as a powerful agent, it would be likely to give rise, in untried and susceptible subjects, to anomalous and unexpected symptoms. But such effects are of little importance, and easily mastered.

“I have never observed any wasting of the mammæ or testes, or of any other part of the body, in the patients I have subjected most fully to its influence; but have repeatedly remarked their improved looks and general appearance. Those of my patients who took most, as the second case in this paper (that of a young woman who took about 100 grains a-day for weeks together,) suffered



its little change of condition as those others that took but ten or twelve grains in twenty-four hours.

"In a few instances it has produced acute ptyalism. I have at this present moment under treatment, in hospital, a female patient, to whom I have exhibited the iodic salt, for periostitis of the occipital bone, and with considerable apparent advantage, but with effects on her gums, teeth, breath, &c. similar to those of mercury.

"In this property, iodine seems to agree with digitalis and some other active substances, which, on rare occasions, have been known to produce like effects.

"Its only sensible effects, which I should be disposed to call its regular effects, are increase of urine and intestinal evacuations. The diuresis is not often enduring. After some days, or a week or two, the patients are not sensible of any thing unusual with respect to the quantity of evacuation. In the quality I have not myself observed any other change than a great increase, in several instances, in the proportion of lateritious deposit. In the urine of patients that drink but little, there may be expected, according to my observations, an unusual quantity of uric acid. With respect to the presence or absence of iodine in the urine, I have made no experiments as yet, and therefore cannot myself speak; but I am informed that there is little difficulty in detecting it, especially by means of oxymuriate of mercury.

"With respect to the bowels, I have rarely found it fail to prove aperient in one degree or other. I have at this moment, in the Marylebone Infirmary, a female long afflicted with articular chronic rheumatism, whose stomach and bowels at first proved so intolerant, as to lead me to abandon it for veratria, but who can now take five or six grains in a chalk mixture, with five drops of laudanum, four times a day, without any inconvenient effect whatever. Her bowels are properly active, and yet she takes twenty drops of laudanum during the day, and gr. iss. of mur. morphixæ every night.

"In the majority of cases, I have after the first few days found it to stimulate the bowels no farther than to cause free evacuation once, or more frequently twice, a day."

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37. *Acetate of Lead in Internal Hæmorrhages.*—M. KIRMIR has resorted to the use of acetate of lead in great success in several cases of internal hæmorrhage. In one case of violent hæmoptysis, the acetate, in the dose of two grains, with a quarter of a grain of opium, was administered. After the second dose the hæmorrhage ceased, and the patient recovered some colour and strength; he continued to take up to eighteen doses, and in four months was perfectly recovered.

In another case the patient was attacked with flooding after abortion at the third month. Every means usually employed, except compression of the aorta, was tried in vain. The hæmorrhage continued for three days, and the medical men were about to practise transfusion, when M. Kirmir administered three grains of the acetate of lead, with a quarter of a grain of opium. After eight doses the hæmorrhage was arrested. The same author reports several other cases in which the acetate, given in very high doses, was successful, after every other means had failed.—*Medicin. Correspond. Blatt.*

These facts, though not offering much novelty, in this country at least, where the efficacy of such treatment is well-known, we have thought worth transferring to our pages.

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38. *Turpentine for the Cure of Blenorrhagia.*—Dr. EBRIART highly extols the efficacy of turpentine in the treatment of gonorrhœa. He employs it after the inflammatory stage has been subdued by an antiphlogistic treatment. The following is his formula:—℞. Aq. menth. pp. ℥iv.; Terebinth. venet. ℥j.; Gum Arab. q. s.; Syrup simp. ℥j.; Extr. belladon. gr. j. M. fil. emuls. When this potion acts too immediately upon the intestinal tube, it must be intermitted for a few days.—*Journ. des Connais. Méd. Feb. 1835.*



39. *On the Efficacy of the Hydrated per Oxide of Iron as an Antidote to Arsenious Acid.*—From numerous and very varied experiments made by M. BOULAY, Jr. on horses, he concludes—1st. That poisoning by the arseniate of potass cannot be successfully combated by the hydrate of the peroxide of iron. 2d. That the sulphate of iron employed with the same view, produces no beneficial effects. 3d. That it requires nearly two ounces of arsenious acid to poison a horse; and that when this quantity is given, death constantly ensues on the second or third day. 4th. That the hydrated peroxide of iron appears to be as announced by M. Bunsen, the antidote to arsenic; but that this preparation succeeds only when given in a much larger dose than the poison. 5th. That when this antidote is given simultaneously with the arsenious acid, it almost always completely neutralizes the effects of the latter. 6th. That the hydrated peroxide of iron also produces favourable results when administered even four hours after the poison. 7th. Finally, that it does no good when given a long time after the poison has been swallowed.—*Journ. Heb. des Prog. des Sc. March 14th, 1835.*

40. *Tinea Capitis.*—Dr. LOUDON, in a communication in the *Lancet*, (February 21st, 1835,) recommends simply bathing the parts every two hours during the day with the strongest tan-water as the most successful plan of treating tinea capitis that he has tried.

#### SURGERY.

41. *Malgaigne on the Seat and Diagnosis of the Luxations of the Shoulder-joint.*—Besides the three luxations generally described in surgical works, an incomplete luxation has been recently described by Sir A. Cooper, who considers that in this case the head of the bone is placed on the outer side of the coracoid process, while M. Lisfranc, on the contrary, holds that the head of the bone rests on the inferior border of the glenoid cavity. Again, most surgeons admit what are called consecutive luxations. In order to appreciate the value of these several doctrines, the author first enters into a minute examination of the anatomy of the shoulder-joint, and endeavours to show, that on three sides, viz. above, internally, and externally, the articular cavity is so enclosed by the fibro-osseous arch composed of the coracoid process, the acromion, and their uniting ligament, that it would appear that luxation can only take place downwards, and even there it is impeded by the thickness of the capsular ligament and the third head of the triceps.

From these and several other considerations, M. Malgaigne concludes, as principles:—1st. That, as *ceteris paribus*, luxation under the coracoid process is the most easily produced. 2d. That an incomplete luxation of the same kind may occur, but the capsule then is not ruptured. 3d. That in every case of complete luxation, the capsule must be, at least partially, torn. 4th. That every luxation of the humerus necessarily increases the length of the arm, if measured when brought close to the trunk.

In order to arrive at some notions on the nature of the luxation downwards, as described by authors, M. Malgaigne made various experiments on the dead body, and never succeeded in producing any other luxation than that which he calls sub-coracoid, in which the head of the bone lies under the coracoid process, while its neck rests on the anterior edge of the glenoid cavity, with which latter the great tuberosity is in contact.

It now remained to see if what takes place in the living body is identical with the luxation produced in the dead, and to determine this question, we have only the result of autopsies, and a comparative study of the symptoms.

Autopsies in cases of dislocation are rare; however, M. Malgaigne has collected a certain number, which prove that the sub-coracoid luxation occurs equally in the living body. All the symptoms observed on the dead body are also seen on the living; these are pointed out by the author, who notices certain signs, which, though constant, he says, have not been mentioned before he referred to them.



Thus, in all cases, the arm is elongated; and to determine this sign, which is not always very sensible to the view, M. Malgaigne signalizes the inferior angle of the acromion, and the tuberosity of the humerus, as the two fixed points from which we should set out. Besides this, the anterior wall of the axilla, measured from its free edge to the lower margin of the clavicle, is also in all cases greatly elongated.

The projection of the head of the humerus is, again, an invariable symptom; authors attribute this sign exclusively to the luxation forwards, but M. Malgaigne shows that it is equally met with in luxation under the coracoid process.

Hence, from the normal anatomy of the joint, from its pathological anatomy, and from experiments on the dead body, M. Malgaigne concludes that luxation *downwards*, as it is called by authors, really takes place under the coracoid process, the anatomical neck of the humerus resting on the anterior edge of the cavity. The author, however, admits several varieties of this luxation, depending on the greater or less height of the coracoid process, the extent of laceration of the capsule, &c.

Luxation of the humerus forwards has not, according to M. Malgaigne, been described according to nature. From the study of two cases which he has seen, and a third taken from White, he gives the following characteristic symptoms of this luxation—viz. in elongation of the arm and anterior wall of the axilla, the arm is placed close against the trunk, and the head of the humerus is felt under the great pectoral muscle, and on the inner side of the coracoid process. In this luxation the head of the bone rests in the sub-scapular fossa, and the capsule is extensively lacerated.

Incomplete luxation of the humerus, according to the idea of Sir A. Cooper, is anatomically impossible; the observations of Sir Astley himself, show that the bone lay underneath the coracoid process; this the author establishes by several autopsies; he concludes, contrary to the opinion of the English surgeon and M. Dupuytren; that a relapse is not to be more feared than in any other case. In what is called luxation backwards, the head of the bone is not placed on the sub-spinous fossa, but under the acromion. Finally, the author absolutely rejects the idea of consecutive luxations by muscular action.—*The Lancet*, February 7th, 1835, from *Journ. Hebdom.* January 24th.

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42. *Tracheotomy for Croup in an Infant—Cure.*—An infant, three years of age, was apparently affected with a cold for ten days, when he began to complain of a pain in the throat, and two days afterwards exhibited all the symptoms of croup. The difficulty of breathing was becoming hourly worse; but all the accidents were for a time dissipated, on the expulsion of a false membrane. On the following morning the bad symptoms reappeared with increased energy; and twenty-four hours afterwards the child was brought to the Hôtel-Dieu to be operated on by M. TROUSSEAU. On examination of the mouth, the pharynx and amygdalæ were seen lined with large diphtheretic concretions; the respiration, though neither very frequent nor sonorous, was carried on with efforts; it was dry and tubular; the rale rouflant and bruit de soussape were heard in the lungs; the state of asphyxia was becoming more severe every minute. The operation was determined on at once by M. Trousseau. When the trachea was opened, the child's respiration was not relieved in any remarkable manner, a circumstance doubtless depending on the catarrhal affection of the air-tubes. Several fragments of false membrane were now extracted from the superior and inferior angles of the wound. A portion of sponge, fixed on the top of a whalebone rod, was passed down as far as the first ramifications of the bronchia, after having been moistened in a solution containing eighteen grains of nitrate of silver to the ounce. Pure water was frequently dropped into the trachea; and the use of the sponge, &c. repeatedly had recourse to, in order to favour the expulsion of the mucosities and false membranes. After the lapse of two days, the child ceased to expel any false membrane, his respiration became easy, and his general state satisfactory. The same treatment was continued for eight days, when the canula was removed, as the infant began to breathe from his



larynx: the wound soon closed up, and the little patient is now perfectly well.—*Gaz. des Hôpitaux*, January 17th, 1835.

43. *Oiled Silk and Warm Water Dressing*.—The plaster used by Mr. LISTON to recent wounds, such as after amputation, &c. is composed of a spirituous solution of isinglass, spread over oiled silk; the solution is spread, when hot, on strips of the silk, and applied immediately. After amputation, the strips are used of considerable length, so as to give support to the flaps, and an interval is left between each, to allow the escape of matter, should adhesion not take place. Mr. Liston has used it for some years, and has found it to succeed in almost every case. It is easily applied, does not heat the limb, as the usual mode of dressing does, is easily removed in case of secondary hæmorrhage, allows the escape of offensive matter, and prevents the fætor attending the confinement of the discharge; often the wound does not require a second dressing, and the plaster frequently supersedes the necessity of a bandage. The use of warm water dressings, as employed by the same surgeon, consists simply in pledgets of lint, the size of the ulcer, dipped into warm water, and applied to the part, a piece of oiled silk a little larger being placed over it to prevent evaporation. It is found, in some cases, quite effective without the assistance of any other remedy; occasionally some slight astringent, such as a weak solution of sulphate of zinc or copper is indicated.

Both dressings are cleaner and less painful than any other; the last does not require a sponge; indeed, there have been no sponges used in the hospital for some time, except during operations. Mr. Liston said he had dispensed with them at Edinburgh, as he had seen the indiscriminate use of the same sponge by the various patients, attended with the worst consequences. It was often the cause of the spreading of one description of ulcers, of a malignant character, through the wards of the hospital.

It is not for the medicinal use of the water, as stated by a late writer on the subject, that this dressing is applied, it is in place of a poultice. It is by no means a novelty: many surgeons in the army and navy have employed it for years with success.—*Ryan's Lond. Med. and Surg. Journ.* May 2d, 1835.

44. *Incomplete Resection of the Ulna, as a Substitute for Amputation of the Forearm*.—The history of surgery affords several examples of incomplete resection of the ulna. One of the earliest operations was performed by Gorcke in 1793, who removed four inches of the bone: the elder Moreau removed a portion of the ulna twice in 1794, and twice in 1797. Since then a similar operation has been performed by Roux, Crampton, Percy, Delpech, and several other French surgeons. In Germany, partial resection has been successfully had recourse to by Withusen, Warmuth, and Holscher, but we know of no case in which such an extent of bone has been removed, as in the one by M. MALAGODI, about to be noticed. G. Barberini, twenty years of age, received a stroke of a stick on the middle of the left forearm; the accident was followed by pain, tumefaction, &c. and six months afterwards a tumour, extending nearly the whole length of the ulna, was developed under the integuments, and soon acquired an immense magnitude. On his entry into the hospital of *St. Croce*, the forearm was double its natural size: the soft parts covering the tumour were traversed with fistulous excavations, and the whole ulna, within two inches of the olecranon, was manifestly converted into an osteo-sarcomatous tumour. According to the rules generally laid down, disease to this extent would have warranted immediate amputation of the arm; but Dr. Malagodi, influenced by various considerations, which it is unnecessary for us to repeat here, determined on resection of the diseased bone, by disarticulating it at the wrist-joint, and sawing through the head an inch below the olecranon. The patient was accordingly prepared by a few days of rest, diet, the use of a purgative, bleeding, &c. and on the 20th of June, 1834, the surgeon proceeded to operate in the following manner:—

The arm being intrusted to two assistants, a tourniquet was placed over the



humoral artery; a curved incision was now carried from the styloid process of the ulna as high up as the elbow-joint; a similar concave incision to the same extent joined the two extremities of the former, and thus circumscribed the altered integuments; these latter being dissected off from the superior extremity of the wound, the muscles and aponeuroses were removed from the bone with a curved knife; the operator had now arrived at the interosseous space, and recognised with pleasure that the radius was not comprised in the disease; he therefore directed the knife towards the articulation of the wrist, and opened the joint from the outer side, dividing the tendon of the extensor carpi, which he was unable to avoid; the whole of the diseased mass of bone was now isolated up to the elbow-joint, where sufficient of the ulna remained sound to permit its resection about an inch below the olecranon; three arteries were tied, and the wound was at once united; the dressings were not removed until the fifth day, when a great part of the wound was healed.

After this period the case went on favourably, and cicatrization was completed on the thirty-fifth day: the patient even then was able to flex all his fingers, and enclose a body in the hand with some force. Two months after this M. Malagodi saw the patient, who assured him he was able to resume his ordinary labour, and execute any work.—*Bull. of Med. Sc. of Bologna.*

45. *Amputation and Disarticulation of the Lower Half of the Inferior Maxillary Bone.* By M. LISFRANC.—M. Sache, merchant, fifty-seven years of age, had always enjoyed good health, being merely affected with some rheumatic pains in the back. At the commencement of the year 1833, these pains were replaced by violent head-ache, with dizziness, &c. During this time the teeth on the left side of the jaw began gradually to fall out, and in the month of June the pain became entirely fixed to that region. The left and middle part of the lower jaw was now the seat of tumefaction, and after a month the last molar tooth dropped out, and gave issue to an ichorous matter. The engorgement quickly extended to the tongue, and the inner surface of the lower maxillary bone soon threw out vegetations. These latter were excised on two occasions by M. Boucher, of Lyon; but they sprang up again with increased rapidity. The pain now became lancinating. The patient from this time remained without any treatment until the end of October last, when he came to Paris and put himself under M. Lisfranc. At the first examination the tumour was found to be in the following state; the left side of the lower jaw, as far as within six lines of its angle, seemed to be increased six times in volume, and above, the engorgement of tissues mounted up nearly to the superior dental arch. Above the angle the disease embraced three-fourths of the neck of the bone, and extended beyond the carotids, which it seemed to embrace. Near the edge of the bone the skin was blue, and the seat of two tuberculous points; in every other part it appeared to be healthy.

The finger introduced into the mouth felt fungous projections from the alveolar edge, to an extent reaching from the middle of the jaw-bone to the coronoid process. The inner part of the centre of the bone was soft, and tore away under the slightest pressure.

The nature of the disease in this case was manifest, and the necessity of an operation clear; but M. Lisfranc, according to his peculiar ideas on the nature of cancer, &c. previously sought to reduce the engorgement by leeches and cataplasms; in this he succeeded, and brought down the tumour to the sub-maxillary region; the carotid arteries became free, and above were distant at least ten lines from the engorgement.

In this favourable state M. Lisfranc proceeded to operate. Instead of pursuing the ordinary method, which consists in making a transverse incision from the angle of the mouth, and two perpendicular ones, M. Lisfranc preferred a quite opposite one, by which the base of the flap becomes superior; the presence of a cicatrix on the face is thus avoided, and the lower one is covered by the cravat.



An incision, commencing six lines inside the commissure of the lips on the left side, was brought down perpendicularly below the chin, to the level of the thyroid cartilage; it now swept round the tumour and ascended along the edge of the maxillary bone to the ear. An assistant held his fingers on the carotid and temporal arteries in order to constantly point out their situation.

M. Lisfranc detached the flap from below upwards with great difficulty; this done, he extracted the two left incisors, exposed the body of the bone six lines from the symphysis, and divided it from before backwards with a small saw. On examining the ramus of the jaw, the operator now convinced himself that it was diseased, and resolved on disarticulation.

With a curved bistoury he divided all the parts surrounding the coronoid process, and then, resuming his dissection, he gradually detached the tumour from below upwards, turning the bone outward, and replacing the bistoury by the scissors in the neighbourhood of the large vessels. The fingers of the assistant protected the carotid and temporal arteries during the whole operation.

Five or six vessels were tied; and a small prolongation, in the form of a cyst, situated below the tongue, was extirpated. Some indurated points were also removed, especially on the inner surface of the flap which was clipped in all directions with the flat scissors.

The tongue remained in situ, as the genio-glossus and genio-hyoideus muscles, which remained healthy, were carefully preserved. The flap, when laid down, was retained by about thirty points of suture; and a small opening was left at the most depending part for the exit of pus. The dressing consisted in a broad piece of linen, perforated with openings, and covered with cerate: a good deal of charpie, especially over the middle part, to favour the application of the flap without compressing it, was used; and, finally, the chin-bandage. The patient experienced no accident—not even a slight head-ache: he merely had difficulty in swallowing fluids, which partly passed out of the wound; but this inconvenience diminished daily. After the twelfth day he walked about his chamber; and, by making use of a biberon, he was able to take broth, jelly, &c. The sutures were removed on the second and third days. From this time every thing has gone on well, and the patient is now perfectly cured. On examination of the tumour, it was found to be of a scirrhus nature, surrounding the whole of half the lower jaw-bone, which was itself eroded and extremely fragile.—*Gazette Médicale*, January 17th, 1835.

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46. *Treatment of Fungus of Bladder by Ligature, Laceration and Crushing.* By M. CIVIALE.—Certain tumours, which become developed in the bladder, principally near the orifice of the urethra, sometimes acquire sufficient magnitude to give rise to serious accidents. Up to the present day, surgery was unable, not only to cure them, but even to determine their existence, which lay concealed until after death. The use of lithotritic instruments has furnished me, (says M. Civiale,) with a certain means of recognising them in the living body, determining their consistence, appreciating their volume, and judging whether or not they are pediculated. These principles once known, have suggested to me a series of curative measures, which, after some trials, have at last led me to the most satisfactory results.

I employed at first the ligature, by means of a peculiar apparatus, which it would be too long to describe here; but this method can only be applied to a very small number of cases. It is so long, difficult, and fatiguing to the patient, that I was soon compelled to renounce it. I then conceived the idea of *tearing* away these tumours, by means of instruments analogous to those used for crushing the stone, but mounted in a different manner. This method was put in practice for the first time on the 23d of October, 1827, in the case of a small pediculated fungus. The operation was easy and simple. The patient passed a good deal of blood in his urine, but experienced no accident whatever; and was cured on the following day. A small instrument was employed; and although the fungus came out in its branches, the whole was brought easily away



from the urethra. (This is the most simple case which has occurred in M. Civiale's practice.)

Another patient was submitted to the same process on the 12th of March, 1829; but his case was much more severe. The tumour was hard, and as large as a small nut. It was necessary to crush it, and to reduce it to a kind of paste, before it would pass through the urethra. The operation was difficult and painful, and required two sittings. It was terminated on the second, which took place after an interval of seven days. Several surgeons, amongst whom were MM. Baffos and Costello, assisted at it. The patient died in three months of typhoid fever, a disease totally unconnected with that of the bladder.

M. Civiale has also practised the tearing away of a vesical fungus on a third patient, who was at the same time affected with stone. He first lacerated the tumour, and then crushed the hard body: but in this case the operation presented a peculiarity, which has induced him to abandon it since. In spite of repeated torsions, the pedicle of the fungus was not completely detached; and it brought out with it a filiform slip of the urethral mucous membrane, several inches long. The promptitude and facility with which membranes of this kind are reproduced, encouraged me, to a certain point, as to the results of this accident: the termination was, in fact, happy; but the patient suffered a great deal for three days; and the urethra preserved a high state of sensibility for a long time.

The third means which M. Civiale proposes against fungous tumours of the neck of the bladder is crushing. After having seized and isolated the tumour by a process analogous to that which he uses for stones that are not voluminous, he closes forcibly the instrument, so as to crush the fungus suddenly, and strike it with death; but instead of withdrawing the instrument, and thus lacerating the pedicle, he opens the branches, and detaches the instrument from the crushed mass—a manœuvre generally easy, as the bladder is filled with water. The tumour thus crushed passes away with the urine, either immediately after the operation or at a later period.

Several patients have been operated upon in this way with the most complete success. There is at present one at the Hopital Necker. The operation was commenced on Tuesday the 13th, and on the same day the patient expelled a large portion of the tumour. No accident has been developed; and immediately after the operation, the patient made water of himself with great ease, a thing which he could not do for several months previously, in spite of the various methods of treatment which had been employed.

The process of crushing presents some difficulties; but its application is not accompanied with much pain, as the tissues on which the instrument acts are little sensible. In this way the slight degree of excitement which follows the operation must be explained.—*Gazette Médicale, December, 1834.*

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47. *New Species of Encephalocoele.* Clinic of M. DUPUYTREN.—There is a species of Encephalocoele, of which medical writers have as yet given us no description, at least as far as I know; the ambiguity of its diagnostic may perhaps be the reason:—but to the point.

Towards the beginning of 1833, an infant of eighteen or twenty months old, of good constitution and in good health, was, with its mother, received into the Hôtel-Dieu for the cure of a wen about the size of a nut, situated at the root of the nose, exactly below the nasal spine of the os frontis. It had every appearance of a small cyst; was moveable at its base without change of colour to the skin; not pulsatile; indolorous, resisting pressure, and somewhat like a little horn. The skin of both lachrymal sacs was slightly raised, and the nose very much flattened; in short, from its appearance, it was at first considered as a simple encysted tumour, such as is not unfrequently found in the same region, and an operation was judged necessary.

But, on questioning the mother, it appeared that this tumour had existed from the hour of the child's birth; that at first it was about the size of a pea, had increased by insensible degrees, and always appeared swelled and rather disco-



loured when the child cried; and, finally, that some country surgeon had advised the cure of it by caustics. It may not be irrelevant to add, that the disposition of the child was in a remarkable degree irascible: a circumstance which has characterized every case of encephalic hernia, whether congenital or accidental, that ever came within my observation. In no other respect was the child remarkable.

From all circumstances, then, M. Dupuytren suspected that this tumour was a prolongation of the brain through some congenital cleft in the base of the skull; yet it was neither reducible in size, nor pulsatile, though a strong pressure of it by the finger gave pain and general agitation, but no remarkable encephalic symptoms. On displacing the base of the bone, a certain unusual rugosity was felt on the margin of the upper bones of the nose, but no osseous opening could be readily traced, nor was that surprising, as in many cases of encephalic hernia, the progress of ossification will reduce the hole of communication to extreme smallness.—Camper, Ruysch, Astley Cooper, Nannula.

Aware that M. Breschet, as surgeon of the Hospice des Enfants Trouvés, had many times dissected the bodies of children, M. Dupuytren anxiously sought his opinion on the case.

M. Breschet declared that he had himself met with a case exactly similar; that autopsy had proved the tumour was formed by a portion of one of the anterior lobes of the brain prolonging itself through a central cleft of the ethmoid and spheroid bones to the root of the nose. A design had been taken of the case, which he exhibited, and it was the exact counterpart of the one in question.

The mother of the child was of course forbidden ever to suffer any operation to be performed on the tumour, a slightly compressive but continued bandage being all that was necessary, and which might by possibility reduce it in time.

Congenital encephalocele had already been observed in several parts of the skull; but I was not before aware of the possibility of the formation of these tumours through a cleft of the base of the skull to the root of the nose. These herniæ, then, from their deceiving appearance, demand the greater attention from the practitioner, as a sanguinolent or caustic operation on them might prove fatal.

Professor Lallemant, of Paris, it is well-known, believing that he was operating on a small wen in the nape of the neck of a young lady, found on dissection that it was a prolongation of the cerebellum through an opening of the occipital bone. The young lady died.

About the same time another case of apparent wen appeared in one of the hospitals, and the surgeons were about to operate upon it, when the young lady's fate opened their eyes, and they desisted. I myself saw another instance in 1827; it was in the Hospital of Incurables at Naples; the tumour was on the temple, near the corner of the eyebrow, and had every appearance of a wen.

It would appear, from several facts verified by dissection, that congenital encephalocele may arise not only in the sutural region of the skull, but also about its anterior part.—*London Med. and Surg. Journ.* May 2d, 1835.

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48. *Fracture of the Humerus from Muscular Action.*—J. M. æt. 34, shoemaker, was admitted into Westminster Hospital, Oct. 29th, 1834, under the care of Mr. Guthrie. He is a stout, athletic man, rather above the middle height, accustomed to great exercise, more especially hurling great weights. He has frequently thrown stones to a considerable distance for a wager, and has at different times displayed considerable muscular power in raising heavy weights. He states that he has lifted five half-hundred weights at once, and that he has thrown a stone the distance of one hundred and forty-four yards. He has made more money by his personal strength than by application to his trade. His person corresponds with the account he gives of himself, being marked by great strength, power, and muscularity.

On the day of his admission he was engaged for a wager to throw a stone weighing about two ounces to the distance of one hundred yards, in doing



which, the powerful action to which the muscles were excited caused the humerus to snap across just below the insertion of the deltoid. At the time the accident happened he himself was not aware of it, but soon became sensible of it by the severe pain which supervened, and the want of power in the limb. The snap was audible to the bystanders. He was seen soon afterwards by Mr. Pearse, of Marsham street, who sent him into the hospital, where splints and a roller were applied, and the usual treatment adopted. Considerable inflammation and tumefaction ensued, and it became necessary to remove the bandage and the remainder of the apparatus. The whole arm became very much swelled, and presented the appearance of erysipelas phlegmonodes, with very severe pain and high inflamed fever. Leeches were applied freely, followed by cold lotions; purgatives were administered, and he was kept on low diet and perfectly at rest. The cold lotion was afterwards exchanged for fomentations in the day time and poultices at night. On the 1st of November the limb presented indications of fluctuation, and Mr. Guthrie was consequently induced to make an incision near the elbow, but blood only was evacuated. The inflammatory symptoms and the fever gradually diminished, and by the fifteenth of the month, when he was removed to the new hospital, the tumefaction had lessened so much, that the splints were reäpplied.

The splints and bandage were kept applied until the 7th of December, when union was found to have taken place, and was firm. The apparatus was accordingly removed. On the 16th he left the hospital: at that time union was perfect, and the abnormal size of the limb was removed, but there still remained some enlargement at the lower extremity of the limb, and he was unable to use it. He could not even use his fingers, and was therefore totally unfitted for his usual occupation—that of a shoemaker. He was recommended to have recourse to friction, more especially about the lower part of the arm and the upper part of the forearm, and also to use passive motion several times in the day. Hope of recovery animated him, and he had due recourse to these measures, but unfortunately without benefit. The last time we saw him he remained *estropie*.—*Ibid*.

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49. *Chloride of Zinc, an External Remedy for Cancer*.—Dr. CANQUOIN, of Paris, has addressed to the Royal Academy of Medicine a paper in which he establishes the claims of the above mentioned article. He refers in his paper to Drs. Lisfranc, Amussat, Sansom, Itard, Francois, and Pariset, in support of his positions.

The following are his conclusions:—1st. That chloride of zinc, a most powerful caustic, is notwithstanding the most harmless of all those hitherto used to effect the removal of diseased textures. 2d. That no serious inconvenience ever results from its application. 3d. That the eschar which it produces sloughs off from the eighth to the twelfth day. 4th. That this chloride exerts so powerful a modification on the surrounding tissues, (which the knife cannot ever effect,) that cancer never returns, at least in the same spot, and therefore, that the cure is certain, unless there be a cancerous diathesis. 5th. That prepared and applied according to his method, it has constantly succeeded in the immense majority of cases, he has met in the course of a practice of ten years, devoted especially to that peculiar form of disease.

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50. *Incomplete Luxation of Thigh Downwards and Backwards*.—A case of this rare accident, of which one was recorded in our last number, (p. 13,) has recently been observed by M. ROBERT, *l'Hôpital Cochin*, and is recorded in the *Gaz. Méd. de Paris*, November 13th, 1835.

The subject of it was a labourer, who whilst at work in a quarry was thrown down on his left thigh by a mass of stone weighing three hundred pounds. On examination, the thigh appeared somewhat flexed, and rotated inwards; and was shortened seven or eight lines. Above and behind the tuberosity of the ischium, the hand distinguished a hard round tumour formed by the head of the femur. The bone was reduced without difficulty, the thigh having been forcibly



flexed on the pelvis, and extension practiced on its inferior extremity. No accident succeeded the reduction, but the patient died in sixteen days of an inflammation of the pleura, caused by a rib fractured in his fall. On post mortem examination, the muscles surrounding the articulation were found uninjured, except the quadratus femoris, which was torn across at its superior half: the capsular ligament was lacerated extensively at its *posterior* and *inferior side*; the ligamentum teres was also torn through, and the prolongation over the notch of the edge of the cavity was detached. The luxation could be easily reproduced by flexing the thigh, adducting and rotating it; and then the head of the femur was seen to rest partly on the inferior posterior edge of the cotyloid cavity, and partly on the neighbouring portion of the base of the ischium.

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51. *Luxation of the Forearm—Successfully reduced after five Months duration.*—M. ROUX has succeeded in reducing in a young man, twenty-two years of age, a luxation of the forearm of five months duration, and in which there was apparently complete ankylosis, for the forearm was posterior to the humerus; the limb was extended, and it was impossible to effect fluxion.—*Archives Générales*, Dec. 1834.

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52. *Luxation of the Humerus Downwards and Outwards.*—A case of this accident, the existence of which was deemed impossible by Boyer, except where the glenoid cavity of the scapula had a great anormal inclination outwards, has been communicated to the Academy of Medicine by M. LEPELLETIER. M. L. succeeded in reducing it forty-five days after its occurrence.—*Archives Générales*, Nov. 1834.

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### MIDWIFERY.

53. *Cæsarean Operation performed three times with Success in the same Woman.*—In the German medical journal *Abhandlungen aus dem Gebiete der Geburtshülfe*, (Ed. G. A. Michaelis,) Keil, 1833, we find the following case, in which Drs. Zwanck, Wiedemann and Michaelis were the operators. The subject of the report was a female, who had suffered so much from rickets and softening of the bones during childhood, that she did not commence to walk, (and then moved only with difficulty,) at the age of twelve years.

At the period of her second pregnancy her stature did not exceed four feet, (Prussian measure,) and the vertebral column was excessively curved at the lumbar region: the pelvis, when examined internally, appeared very much contracted from behind forwards; the antero-posterior diameter, from the lower edge of the symphysis to the promontory, was two and a quarter to two and a half inches, and that of the inlet was estimated at two inches. The cavity of the sacrum was not well marked, and the perineum was very small.

The course of the first pregnancy was regular, and labor came on at the end of forty weeks: as the head appeared to remain immovable above the inlet of the pelvis, the child was turned and the forceps applied, but without effect, and the assistance of another physician was required.

As the child appeared still to live, it was determined to perform the Cæsarean operation, and in order to prepare the patient, twelve leeches were applied to the abdomen, and she was ordered an emulsion containing some nitre.

The operation was performed on the following morning, by Dr. Zwanck, June 18th, by an incision which divided the linea alba. Dr. Seidel supported the parts exposed by this incision with a cloth steeped in oil; one or two folds of intestine protruded near the lower extremity of the wound, but they were soon returned: an incision was now made into the uterus, and the child and placenta were extracted at the same time. A sharp hæmorrhage from the division of the uterus was arrested by dropping cold water on it, and the organ became firmly contracted.

The child, a boy weighing about seven pounds, showed traces of recent



death. The wound was closed with sticking-plaster, covered with charpie, and supported by a bandage. The treatment at first was strictly antiphlogistic, and half a grain of acetate of morphine was administered every day: by degrees a more strengthening regimen, bark, &c. was substituted. The discharge through the wound was moderate, and after three weeks it was completely closed; on the 20th of July the patient might be considered as cured, and the menstrual discharge returned eight weeks after the operation.

Dr. Zwanck attributes the excellent sleep enjoyed by the patient to the use of the morphine, which thus contributed to prevent the development of various accidents.

[The rapid cure and absence of every dangerous symptom in the present case, are remarkable circumstances; and although the use of the morphine, and abstinence from the suture, which is generally employed, may appear to account for the success of the operation, yet other reports prove that a perfect cure may be obtained, under favourable conditions, when the constitution is sound and the patient is submissive, without our having recourse to this last resource.]

The above-mentioned female became pregnant the second time, after a lapse of three years, and was brought to the lying-in hospital of Kiel, in December, 1829. Since the last operation it was manifest that the uterus was united to the parietes of the abdomen at the inferior portion of the cicatrix; and on the coming on of the labour pains, the extent of the union could be sufficiently perceived by the wrinkled lines produced in certain points; the diameter of this might amount to one and a half inches. Upon internal examination the fœtus or its position could not be felt, but externally it was found that the buttocks lay upon the pubis. At the commencement of January, (the last month of her pregnancy,) the patient complained frequently of severe tension of the abdominal parietes. Enlarged veins were seen to cross the old cicatrix, the leech-bites partially opened, and one furnished a good deal of blood.

Labour commenced in the night of January, 1830. On the morning of the 21st the os uteri began to dilate, and at four o'clock, P. M. its dilatation was about three fingers. The membranes now gave way, and a foot was distinguished. Under these circumstances the Cæsarean operation was performed by Dr. Wiedemann, who preferred making his first incision along the left side of the linea alba. The placenta immediately presented itself in the wound. This was removed, the left arm of the child was seized, and the infant itself was extracted as far as the head. A contraction of the uterus soon set in, and the head followed a gentle traction. The child, a female, seven pounds in weight, was born alive. On this occasion three points of suture were applied, according to Graefe's plan a small pledget of lint was laid in the lower angle of the wound, and the whole was dressed with sticking-plaster, lint, &c. The progress of the wound now also was favourable, and in the beginning of March it was all cicatrized except in a few small spots. The secretion of milk appeared during this time, and the child took the breast, but died on the 19th of February, from a species of hardening of the skin. Up to the middle of March a few points of the wound remained unclosed, and on examination there was found a fistulous orifice from which on pressure a little mucus-like fluid exuded. After several attempts to find the direction of the canal, the sound penetrated more than an inch into the uterus, which lay close under the cicatrix, and was firmly united to the integuments of the abdomen. Injections thrown into the fistula passed out through the vagina, and a muco-purulent fluid, in some quantity, also now came away through this channel. The fistula uteri resisted all attempts made to heal it, up to the patient's departure in March, although sometimes it appeared for a few days to be closed with a thin pellicle of skin. The whole anterior surface of the uterus now appeared to be united to the abdominal parietes, and the organ was so much drawn up that the os uteri could scarcely be reached above the os pubis with the finger.

The third pregnancy took place in June, 1831. At this time the fistula was



healed, and the patient had commenced to menstruate soon after her departure from the institution. She returned in March, 1832, and in the end of the same month labour set in, when M. Michaelis, (for the third time,) performed the Cæsarean operation. He made his incision on the left side of the second cicatrix, and extracted a male child weighing six and three-quarter pounds. The placenta was easily loosened and brought away likewise. A severe hæmorrhage, which followed the removal of the placenta, was arrested by dropping water from a sponge moderately elevated above the wound. The latter was dressed in such a manner as to guard against future hæmorrhage. The patient's state continued favourable, and on the 16th of May only a few small points of the cicatrix were open, and these soon healed. The patient left the institution on the 27th, and since that time has enjoyed most excellent health.

This highly interesting and remarkable case gives M. Michaelis an opportunity of delivering some judicious remarks on the Cæsarean operation, to a few of which we shall allude.

1st. On the operations which have been performed several times with success on the same female. He refers to ten cases as the only ones to which no doubt can be attached.

2d. Cases in which the second operation was followed by the death of the mother; and also examples of pregnancy after the Cæsarean section.

3d. M. Michaelis strongly condemns the practice of suture as likely to bring on inflammation, and hence he applies them as seldom as possible.

4th. The author notices 110 cases in which this operation was performed; of these 62 died and 48 recovered. If we seek the causes of death, we find,—From the immediate impression of the operation 2; convulsions 2; debility 3; hæmorrhage 7; meteorismus 3; effusion into the abdomen without inflammation or hæmorrhage 3; excessive softening of the bones 1; diarrhœa 1; inflammation 13; gangrene 8.

In order to calm the first impression of the operation, the author recommends the plentiful use of opium, and mentions that one of the patients took as much as twenty grains of the acetate of morphine in the first few days. Experience has also convinced him, that perhaps the most important point of all in the treatment is, the early and sufficient emptying of the intestinal canal, which is the best means of promoting the discharge of the lochia. The 110 operations already noticed, gave birth to 67 living, 29 dead, and 4 asphyxiated children: but perhaps the most curious circumstance of all is, the difference of mortality for the cases of repeated operation. Fifteen patients who had been operated upon became pregnant a second or third time, so as to furnish 18 cases; as 2 died from accidental laceration of the uterus, it remains to consider only 16: of these, 11 were operated upon with success for the mother, and 5 unsuccessfully for the mother: 8 children were saved and 7 died. Thus, if we take the relation of the above 16 cases, we find that the cures are to the deaths, in cases where the operation is performed for a second or third time, as 11 to 5, while the general mortality, or rather the relation of cures to deaths is as 4 to 3 nearly.—*London Lancet*.

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54. *Two continuous Placentas*.—M. Roux saw at Milan two placentæ, continuous one with the other. They were met with in a case of twins. This is a rare circumstance, and its occurrence has been doubted.—*Archives Générales*, Dec. 1834.

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55. *Distorted Pelves*.—M. Roux, from a comparison of a great number of distorted pelves, has drawn this important practical conclusion, that in pelves, the distortion of which consists in an oblique inclination of one side, coinciding with a notable narrowness of the same side, there is an intimate and complete union of the sacrum and ileum at their corresponding junction, so that if symphyseotomy is performed, the iliac bone of that side cannot be separated.—*Ibid*.



## AMERICAN INTELLIGENCE.

*Enlargement and Disorganization of the Left Kidney.* By MASON L. WEEMS, M. D. of Washington City.—On the 15th of July, 1834, I was applied to for advice by Mrs. Manley, aged about thirty-five, a widow, and mother of two children. She informed me, that between three and four years since, she had suffered two or three months from intermittent fever, during the continuance of which, a tumour made its appearance in her left side, which was pronounced to be an enlarged spleen by several physicians who had seen it; that it had increased but little since its appearance, and as she had experienced no inconvenience from it, except its weight, and a slight pain in that side whenever she took much exercise; she had taken nothing for it. She now only complained of the unsightly appearance of the tumour, and of a dread, (excited by others,) that if neglected, it might ultimately become dangerous.

On examining the abdomen, I found a firm and inelastic tumour, occupying the position of an enlarged spleen, but differing from it, in being much more prominent below the ribs, than immediately under them. The fingers also, could be more readily passed between it and the ribs, than could have been expected with a spleen of that size. It extended forward to the umbilicus, and downward a little into the left iliac region.

Believing the tumour to be an enlarged spleen, I prescribed accordingly, but the medicine was not taken, as the patient afterwards concluded to do nothing for the disease unless she experienced more inconvenience from it.

I heard nothing more from this patient until the 23d of August, when I was called to attend her for a severe attack of dysentery, from which she was, in a few days, convalescent. From imprudent exposure she experienced a second, and again, a third attack of the disease, which continued, (though gradually moderating in degree,) until near her death. On the 4th of September, I invited Dr. Hall to visit the case, which he did, and afterwards frequently attended with me. He expressed a doubt as to the tumour being an enlargement of the spleen, from a consideration of its peculiarities. But as there was not, and never had been, a symptom of an affection of any other organ, he could not express a positive opinion as to its nature. The colon was at this time very much thickened and contracted, resembling to the touch a large cord. It could be traced by the fingers from its origin to its sigmoid flexure, and where it passed in front of the tumour, it was evident to the eye. It was extremely sensitive to the touch, the slightest pressure giving pain. The colon gradually improved in condition, so that by the middle of September it was neither perceptible to the eye nor touch; it had, also, ceased to be painful or tender. By the same time the tenesmus and other symptoms of dysentery had disappeared, yet the patient continued to sink.

In consequence of the straining which attended the dysentery, the tumour soon became the seat of pain, which continued to increase. It was, also, more prominent and pointed, and finally became soft and elastic to the touch.

The fever which attended the dysentery soon assumed the hectic form, and as she took but little nourishment, she was speedily emaciated to an extent seldom witnessed. Her pulse became as small and as weak as that of an infant, and her death was hourly expected. Yet in this condition she continued to exist two weeks longer, and expired about the first of October.



The autopsy was performed by Dr. Hall and myself, within six hours after death. The body was extremely emaciated. Externally there was nothing remarkable, except the tumour in the neck, which was a thin membranous sac, distended with water of a globular form, and about an inch in diameter.

Internally we found the tumour, (which was slightly adherent to the anterior abdominal parietes,) to be the left kidney, increased to the weight of seven pounds. It was totally disorganized; its cortical portion resembling in colour and consistence an equal mixture of blood and brains, though at some points it presented a granular appearance, which might more properly be compared to a mixture of saw-dust and blood. The tubular portion was a little more consistent, and hence the pelvis was recognised.

The ureter was natural. The capsule, (which is now in the possession of Dr. Hall,) was dense, strong, and very much thickened. The colon was somewhat thickened, but in other respects healthy in appearance. The spleen and the rest of the viscera were perfectly healthy.

The most remarkable circumstance in this case, was the total absence, (from the first appearance of the tumour until death,) of every symptom, direct and indirect, which could have caused a suspicion of disease of the kidney. I am aware, that extensive disease may exist in the kidneys without the usual symptoms. But I have seen no case on record in which there did not exist some symptoms indicative of the disease. This patient evidently sunk under hectic fever, caused by the disease in the kidney, for the dysentery was cured sometime before death.

The duration of the disease is also remarkable, and it is probable the patient would have lived much longer had it not been accelerated by the straining which attended the dysentery.

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*A Case of successful Amputation of the Thigh affected with Traumatic Mortification, where Gangrene had extended beyond the line of separation made with the knife and saw.* By PAUL F. EVE, Professor of Surgery in the Medical College of Georgia.—In one of the late numbers of the American Journal of the Medical Sciences, notice is taken of a case of amputation performed by Lisfranc, and published in a late Parisian periodical, from which it appears that not only did mortification, the cause of the operation, continue to spread up the limb, but that even the incisions were made through a portion of the dead parts. From the success attending this case, the distinguished operator and surgeon of La Pitié has ventured to recommend the practice.

At the request of Dr. Y. B. Olive, I visited a patient of his and Dr. R. Williams, on the 1st of January, 1835, who about two weeks before had received a very serious accident. While driving a loaded wagon his horses became frightened, and threw him in such a manner, as to entangle his right leg in one of the trace chains. After being dragged some distance on his back, the wagon wheel struck a tree—bones were heard to break, and he was then released from his perilous situation. Upon examination, the driver, a stout, muscular black man, aged about 40 years, was found to have received several severe contusions and wounds, with a double fracture of both bones of the right leg—one near the ankle and the other just below the knee. The limb was placed in splints and the case seemed to promise a favourable termination for a week or ten days, when mortification commenced, and from delay in procuring instruments, &c. (the patient being twenty-two miles from the city,) it had progressed to the following extent on the 1st of January—the day on which the operation was performed. The right foot and leg entirely sphacelated, knee of same side gangrenous, right thigh infiltrated with serum, and under or posterior surface much thickened from position, with *distinct crepitation* over the anterior surface, extending as high as Poupart's ligament. The pulse was small, wiry and feeble, beating about one hundred in the minute; tongue furred, whitish; courage good—patient willing to submit to any thing that promised relief.



Besides these symptoms, there were severe contused wounds, one on the small of the back, some on the left limb, but which were now in a healing state; and I learnt, moreover, after the operation, that the patient had spit a little blood since the accident. Amputation at the hip-joint being out of the question from the patient's weakness, it was decided in consultation, that the removal of the right limb near the trochanters would be giving the best, if not the only possible chance for his recovery. After pressure was made upon the vessels, an incision in a longitudinal direction was made on the anterior face of the thigh, when oily serum and blood flowed out, from which we felt encouraged, and amputation was performed in the ordinary manner, as already described in a preceding number of your Journal. The patient being supported with laudanum, brandy and water, bore the operation much better than was expected. The stump presented a very unfavourable aspect; the skin of very unequal thickness, owing to the deposition and thickening from position, the muscles were very dark, the arteries and the cellular tissue, particularly along the course of the absorbents, blackish, and from the hollow of the divided thigh bone, the medullary substance protruded of a dark purple colour. On examining the parts removed, the knee-joint was found disorganized—matter extending in the cellular tissue above it; and upon removing the projecting medullary substance from the os femoris, which resembled that of the corresponding part of the stump just noticed, *pus* made its appearance. Under common dressing, and contrary to all expectations, the patient entirely recovered in a month or six weeks, to which he is exclusively indebted, (and here certainly it was more creditable to heal the stump than to perform the operation,) to his attending physicians, particularly to Dr. Olive, now of Mississippi.

I have presented you the fact, adding another case, and confirming the practice ventured on by Lisfranc, viz.—that amputation may not only be performed during the progress of *traumatic* mortification in a limb, at first insisted upon by Larrey, and subsequently by Hennen, Guthrie and other distinguished military, and I may now add, civil surgeons; but that the same operation has terminated favourably, even when gangrenous inflammation has extended beyond the line of separation.

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*Sugar poisoned with Oxide of Lead.* By C. T. JACKSON, M.D.—During the past winter and spring season, a number of persons said to amount to upwards of one hundred in number, in the town of Calais, Maine, have suffered from a disease of the bowels of a violent character, resembling *colica pictonum* of the severest kind. Three of the individuals have died in consequence of this disease, after a protracted and most distressing illness; several others are still in a very critical state, and have suffered more or less from paralysis of the extremities. Through the kindness of one of the sufferers, I have been favoured with the names of forty-eight individuals who are still sick with this disease.

The cause of this distressing malady has been carefully examined into by Dr. S. S. Whipple of Calais, and through his exertions suspicions were finally fixed upon the sugar which had been used in the families of those who suffered; and it was ascertained that the only article of which they had all partaken, was sugar obtained from one importing house at St. Stephens, N. B. It was furthermore observed, that those persons in the families where the disease prevailed, who did not make use of sugar, escaped altogether, while those who indulged most freely in its use suffered the most severely. Thus the chain of evidence was complete against the sugar, and the disease supposed at first to be an epidemic, is in the end proved to arise from poison. Five or six of those persons who were subject to this colic, set out for Boston for the purpose of obtaining medical advice; one, a young lady by the name of Darling, died on board the packet, under the most distressing symptoms, attended with paralysis of the limbs. The other passengers are undergoing medical treatment in this city, and still bear the marks of great suffering and extreme emaciation, the



countenance in every one whom I have seen, showing that peculiar expression which accompanies disease of the abdominal viscera.

I have minutely examined four of the sufferers, and from them have learned the foregoing particulars. It appears that the sugar was brought from Barbadoes late last autumn, and was sold by an importer at St. Stephens, who supplied the trade at Calais. It was also ascertained that the captain of the ship who brought out this sugar, had a small adventure of the same kind, and that he, and those to whom he sold his sugar, suffered from this disease.

After collecting the above evidence against the suspected sugar, it was thought advisable to make a chemical analysis of it. Four parcels, consisting of about a pound each, were put in my hands by Mr. Lee and Captain Rodgers, with a request that I should make an analysis of each of them, and ascertain positively whether they contained poison or not.

The parcels were marked Nos. 1, 2, 3 and 4, and were subjected to analysis in the order of their numbers.

My suspicions and those of Dr. Whipple were fixed on oxide of lead as the poisonous ingredient, and the results of the analysis prove that this opinion was well founded.

They also prove, that a small quantity of this poison, when taken daily, although no immediate disturbance is felt, produces great derangement of the system, and induces a most dangerous and painful disease, which lingers long in the constitution after the use of the deleterious article has been suspended. How often do people exclaim that certain articles are not poisonous, because they have sometimes partaken of them with impunity, when we know that if persevered in, disease and death must be the consequence of their temerity!

I annex the subjoined extract from my laboratory notes.

*June 7th, 1835.*—Four parcels of brown sugar were handed to me by Captain Rodgers and Mr. Thomas Lee for chemical analysis. They are marked Nos. 1, 2, 3 and 4, and weigh about a pound each. No. 1 is evidently from a different lot from the other samples. It is of a lighter yellow colour, and coarse grained; while the others are much darker and smaller grained, and in lumps of a still deeper colour. There is nothing peculiar in the taste or appearance of any of the samples, that would cause any suspicion to be raised against the quality of the sugar.

*Analysis.*—The object of the analysis is to determine if the sugar contains any oxide or salt of lead or copper.

Five hundred grains of the sugar No. 1, burned to cinders in a platina capsule, the cinders crushed to powder in a Wedgewood mortar, and then burned to ashes in the capsule. The ashes was placed in a green glass flask, and digested with nitric acid, and evaporated to dryness; then treated with water and filtered. The filtered solution was placed in a flask, and a current of sulphuretted and hydrogen gas passed through it until the liquor was saturated. No precipitate took place, from which it will appear that this sample does *not* contain any lead or copper.

I have since learned that this sugar was sent for the purpose of ascertaining if it were free from poison, and was not of the kind used by the family at the time they suffered from the disease.

Five hundred grains of No. 2, which came from the house of Mr. Lee, was treated exactly as No. 1; and when the sulphuretted hydrogen gas was passed through it, a copious precipitate of sulphuret of lead took place, which being collected on a filter, washed, dried and weighed, amounted to 1.6 grains; equal to 1.38 grains metallic lead, equal to 2.337 grains oxide of lead. This will give nearly 38 grains of oxide of lead to the pound of sugar.

Five hundred grains of No. 3, treated in like manner, gave a precipitate of sulphuret of lead, the weight of which is precisely the same as that obtained from No. 2.

No. 4, sugar from Mr. Darling's family. Five hundred grains treated like



No. 1, gave, when sulphuretted hydrogen gas was passed through it, sulphuret of lead in weight equal to that from No. 2. The sulphuret of lead obtained from Nos. 2 and 4 was reduced before the blowpipe to metallic lead. A portion of each of the precipitates was examined by tests for copper, and none discovered.

The lead in this sugar may be either in the state of acetate, malate, or saccharate of the oxide of lead, the sugar combining with it so as to form a chemical combination. How this sugar became contaminated with lead, I am unable to say. There is no suspicion of criminal design attached to any one, and it is probable that leaden reservoirs were used for the syrup, on account of the comparative cheapness of the metal, and that the free acids in the juice of the cane corroded the lead, and thus produced the poison, which crystallized in combination with the sugar. The dreadful effects of this poison should by all means reach the sugar planters, who distribute so noxious an article to the people of many countries, and must produce consequences at which humanity shudders. If the planters continue to manufacture this poisonous compound, and send it abroad regardless of the consequences, after they learn how much suffering it has caused, (which I am not willing to suppose they will do,) they will become criminal in the eye of British law, and liable to the severest penalties.

Indeed, we may feel assured, that as soon as they know the effects of their sugar, they will immediately examine into the source from whence the poison was derived, and prevent a continuance of the evil. Their own *interest* would cause this to be done, even if they were not impelled by higher motives; for their sugar would soon have a bad reputation, which would destroy its sale in the market. The researches into the cause of this disease, eminently show the advantage of rational medicine over empiricism, for the empiric would never have traced the disease to its remote cause by a connected mode of research, and consequently would have been unable to learn the cause of the malady and its method of cure. The symptoms in the cases all pointed to lead as their cause, and chemical analysis has confirmed the truth of this opinion. The cause is thus found out and removed; and rational medical treatment will soon restore the surviving sufferers to health.

It is surprising that *colica pectorum* is not a more frequent disease than it is, considering the numerous applications of lead to domestic use. Indeed, I have several times been able to trace the origin of this disease to the use either of leaden reservoirs for water, or leaden suction tubes in wells, where the water was charged with carbonic acid. Such wells are common in Boston, and I have several times been called to witness the effects of water charged with this gas, on lead pipe, which had been corroded entirely through, in the course of two years after it was placed in the well. Whenever water contains carbonic acid, lead suction pipe should be carefully avoided, and block tin substituted in its place; for lead is not only soon destroyed by such water, but a dangerous poison is produced, capable of slowly undermining the most vigorous constitution.—*Medical Magazine, June 15th, 1835.*

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*Physiology of the Schneiderian Membrane.* By B. F. WING, M. D.—The following experiments, which can be easily repeated by any one disposed to try them, will show that many sensations which are usually referred to the tongue, are in reality perceptions of the pituitary membrane.

*Experiment 1.*—A student of the profession consented to become a subject for the trial of his taste in discriminating medicinal substances. He was accordingly blindfolded, and his nose closed. In this condition he received a small quantity of tinct. cinchonæ, (its flavour being particularly offensive to him,) he immediately declared it to be bitter, and supposed it to be laudanum. His disappointment on being put in the possession of his senses can easily be conceived.

*Experiment 2.*—The subject of the first experiment was again desirous of



exerting his power of discriminating between tastes. After being prepared as above stated, a solution of sugar was used, its sweetness was readily discovered, but in its peculiar flavour he was again disappointed.

*Experiment 3.*—Was tried upon a person entirely ignorant of its object. Powdered columbo was introduced into the mouth of the individual after he was prepared in the usual manner; its bitterness was perceived. Of its peculiar qualities he was an incompetent judge.

A similar experiment was tried with the tinct. assafœtida; a burning sensation was perceived, which is common to all spirituous preparations; but its peculiar and strong flavour he could not detect.

Many other experiments were tried without differing in their result.

No one who will take the trouble to repeat experiments upon this subject, will hesitate to refer flavorous sensations to the pituitary membrane, yet he will still claim the possession of a sense of taste, though it is much more limited in its range than has usually been supposed. Thus it is the province of the tongue to perceive bitter and sweet, which are real tastes, while no other organs, however sensible to mechanical impressions, can perceive these properties.

Let us examine the relation existing between this and other organs, or the power this organ, when affected, possesses of producing in remote parts, similar sensations and affections, modified according to their organization and function.

The following experiments will show our liability to consider some prominent organs as *primarily* affected; whereas they are only called upon to sympathize in the general affection produced by an impression first made upon some part entirely overlooked.

*Experiment 4.*—This was tried to ascertain the susceptibility of the individual, (the subject of the experiment,) to the action of tobacco, as it is commonly used in the form of cigars. In thirty minutes after having commenced smoking, slight nausea was felt; in forty, vomiting supervened, and in fifty, the vomiting and other effects usually attendant upon the use of tobacco, increased to such a degree, that its use was suspended. It required several hours to restore the experimenter to his usual state.

*Experiment 5.*—This experiment was tried to ascertain the importance of the Schneiderian membrane in producing the effects of tobacco, either of a pleasant or an opposite character. It was tried upon the same individual, after having closed his nose carefully, so that no current of air could pass through it. The substance of which the cigars were composed could not be detected by the individual, when thus prepared, without the aid of other senses than that of taste. After smoking one hour, slight burning of the fauces was the only uncommon sensation perceived. At the expiration of an hour and a quarter, very gentle emesis took place, unaccompanied by any nausea or lassitude, removing the burning mentioned above. The experiment was continued one hour and fifty-five minutes without any further effect. On removal of the bandage, the person was immediately made sensible of the substance he had used.

*Experiment 6.*—A strong decoction of tobacco was kept warm over a dish of ignited charcoal, and an individual inhaled the vapour through his mouth, having previously secured his nose, one hour and thirty minutes without any inconvenience.

The same experiment was tried, differing only by an exposure of this membrane. In twenty minutes nausea was produced, followed soon by vomiting.

Substance applied immediately to the pituitary membrane, sometimes occasion symptoms of grave disease.

A case was related to me by a distinguished physician, where a partial paralysis of the organs of articulation was occasioned by the use of *snuff*. These symptoms excited much anxiety until the real cause of them was discovered. The habit, however, had become so strong, that the person preferred an impediment to his speech to a deprivation of his accustomed stimulus. In a second case, the physician was consulted for general tremor and paroxysms of violent



palpitation of the heart. After considerable investigation, the cause of these affections was found also to exist in the inordinate use of snuff. Its use was immediately abandoned, and the symptoms very readily subsided.

Ought not this membrane to deserve more consideration as the avenue through which the causes of disease make their attack? Its situation necessarily exposes it, in a peculiar manner, to all causes that are conveyed through the medium of the atmosphere.

In many instances, where the exposure to exciting causes is very brief and their effect sudden, is it not more rational to suppose that they affect primarily this nervous membrane, rather than that they are admitted through the skin, where, to say the least, absorption is slow, if the cuticle is perfect, or through the lungs, or stomach?

Dr. Good mentions a case where typhus was communicated by smelling a rose used to decorate the dead.

Persons in apparent health, passing through diseased districts, have received disease.

Cases have sometimes occurred when patients have even complained of the first effects of disease being manifested in this membrane.

A fisherman, apparently well, on landing from a very healthy voyage, passed with his companions, in the night, a house in which a number of individuals were sick, without his knowledge; he alone perceived an unpleasant odour arising from it, of which he spoke to his companions. He soon complained of nausea and oppression at the stomach. From this time he grew sick, and finally died of the disease existing in the house which he passed.

A person having the superintendence of a dissecting room, in which an attempt was made to preserve a number of bodies for future use, was necessarily occasionally exposed for a few minutes, to the unpleasant odour arising from their partial decomposition. In this individual's constitution there was a predisposition to intermittent. In almost every instance of exposure, however short, a chill and fever would be the consequence, although days would pass, unless thus exposed, without any indication of disease.

If it is established, that deleterious influences upon the economy are produced through the medium of this membrane, it is evident that it will afford an opportunity of applying means for counteracting disease.

In some cases this part remains quite sensible, while others are in a measure torpid.

Sometimes we can apply medicines to this membrane, when all other avenues to the introduction of remedial agents are partially closed.

In syncope it has been an almost universal practice to stimulate the pituitary membrane and arouse the general system through its agency.

Stimulants when applied in equal quantities to this part, are much more efficient than when received into the stomach.

In coma the practice has been attended with some success.

I will not attempt to enumerate the cases in which this practice may be beneficial, or the medicine suitable for use. If such practice is found practicable, the good sense of each individual of this society will decide these points.—*Medical Magazine, June 15th, 1835.*

*Influence of Various Employments on Health.*—Dr. E. BARTLETT, who is engaged in preparing an article on this subject, for the American Cyclopaedia, is desirous of obtaining additional information relative to the health and longevity of the slave population of our southern states, especially of those engaged in the culture of rice. Information is also desired respecting the diseases, &c. of the workmen in the western lead mines. Our correspondents who are in possession of any interesting facts relative to these subjects, will assist in the advancement of science, and confer a favour on us, by communicating them to us. Due acknowledgement will be made of the sources from whence the facts made use of are derived.



*New Medical School in Cincinnati.*—The recent attempt of a highly respectable portion of the medical profession of Ohio to reorganize and reform the Medical College of that state, not having resulted satisfactorily, the Board of Trustees of Cincinnati College, the corporate powers of which College are those of an University, have instituted and appointed a Medical Faculty. The session, it is announced, will open on the last Monday of October, and continue to the end of February.

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*Medical College of Louisiana.*—A Medical School was instituted last autumn in New Orleans, with the above title, and it has since been endowed by the state legislature with corporate privileges. We have before us the introductory lectures of Dr. Edward H. Barton, Professor of Materia Medica, Therapeutics, and Hygiene, and Dr. Thomas Hunt, Professor of Anatomy; but have not yet received a list of the faculty, or the regulations of the school.

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*Medical College of Ohio.*—At the commencement, held February 28th, 1835, the Degree of Doctor of Medicine was conferred on 26 gentlemen.

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*Dunglison's General Therapeutics.*—Messrs. Carey, Lea & Blanchard have in press a treatise on General Therapeutics, by Professor Dunglison. Such a work is much wanted, and the talents and extensive acquirements of the author justify the confident expectation that this want will be well supplied.

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*Dr. Clark's Treatise on Pulmonary Consumption.*—This highly interesting and important work is in the press of Messrs. Carey, Lea & Blanchard, and will be shortly published. It will be printed from the second edition, which has been rewritten and considerably enlarged, and also somewhat altered in its plan, so as to suit it better to the public as well as the medical reader.

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*White's improved Stomach Pump, Cupping Apparatus, and Breast Pump.*—This apparatus, which has been exhibited to us by the proprietors, appears to be well calculated to fulfil the purposes for which it is designed. It is put up in a very portable form, and the cost is moderate.



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# QUARTERLY MEDICAL ADVERTISER.

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IN consequence of the extended circulation of the **AMERICAN JOURNAL OF THE MEDICAL SCIENCES**, the Proprietors intend, in compliance with the wishes of many of their Friends, to affix to each No. a Sheet of Advertisements. All Booksellers, Medical Gentlemen, and others desirous of taking advantage of this mode of announcement, will please address their Advertisements to **CAREY, LEA & BLANCHARD**, Philadelphia, by the 10th day of the month preceding that of the publication of the Journal, viz. on 10th July, 10th October, 10th January, and 10th April.

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*Philadelphia, January 20, 1830.*

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Consisting of lectures of anatomy and class dissections, will commence in these rooms on the 1st of October, and continue throughout the month.

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J. PANCOAST, M. D., No. 103, Walnut Street.

*July 15th, 1835.*

No. XXXII.—August, 1835.



**MEDICAL COLLEGE**

OF THE

**STATE OF SOUTH CAROLINA.**

The Lectures of the Medical College of the State of South Carolina will be resumed *on the second Monday in November*—on the following branches.

J. EDWARDS HOLBROOK, M. D. *Professor of Anatomy.*

JOHN WAGNER, M. D. *Professor of Surgery.*

S. HENRY DICKSON, M. D. *Professor of Institutes and Practice of Medicine.*

JAMES MOULTRIE, JUN. M. D. *Professor of Physiology.*

HENRY R. FROST, M. D. *Professor of Materia Medica.*

THOMAS G. PRIOLEAU, M. D. *Professor of Obstetrics.*

EDMUND RAVINEL, M. D. *Professor of Chemistry.*

JOHN BELLINGER, M. D. *Demonstrator.*

The increasing prosperity of this institution, while it has been a subject of much congratulation with the faculty, has also reminded them of the extent of their obligations, and excited them to renewed diligence in the performance of their duties.

In the several departments of the profession, the opportunities for improvement have been much extended, and exertions made to place the institution upon as respectable a footing as any other in the Union.

The library, established a year since, numbers upwards of two thousand volumes of useful, necessary and valuable books.

Additions have been made by contributions and purchases to the museum, of specimens in natural history, phrenological casts, and anatomical preparations. Orders were sent, during the past year, to France and Italy for anatomical preparations, of which some have been received and others expected. Among the first very interesting specimens of the absorbent system, from Bianchini of Pisa, which he has stated to be better than any ever sent to this country.

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